AUGUST 1983 - 6 French francs

The Unesco Courier

EDUCATION

Strategies

A time to live ...

Photo L. Solmssen, United Nations

16 TRINIDAD AND TOBAGO **Unlocking the door to speech**

The problems facing persons suffering from physical or mental handicaps are exacerbated in the developing countries where such handicaps are often the result of bad diet and poor standards of hygiene. Children who are deaf from birth are a particularly distressing case. Fortunately, big advances in techniques have made it possible to teach them how to formulate words by means of special imitative methods, as in this photo taken at a school for deaf children in Trinidad and Tobago. Next year Unesco is organizing a meeting of experts on the education of the deaf to evaluate the latest advances in this field (see the *Unesco Courier* for January and June 1981).

The Unesco Courier
A window open on the world

AUGUST 1983 36th YEAR

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Editorial

IN the May issue of the Unesco Courier *we examined the outlook for and major trends in education; in this present issue we focus attention on possible strategies of action in this complex field.*

Education is a fundamental human right and a key element in overall world development; yet despite the efforts and resources deployed, too many obstacles still hinder educational advance. To overcome these obstacles, Unesco is relentlessly pursuing the task of analysing the problems of education and implementing solutions on a world scale. The examples given throughout these pages of educational projects to which Unesco is bringing its active assistance and support provide some idea of the solid progress being achieved in a wide range of Member States.

The international network of "Associated Schools", in which children are encouraged to take their first steps along the path to peace and international understanding by learning to respect the identity of other peoples, in all their diversity, is but one reflection of Unesco's goal of linking education with life, and at every stage of life. And this strategy—creation of the strongest possible links between school and society so as to favour group and individual fulfilment—is an underlying theme of all our articles.

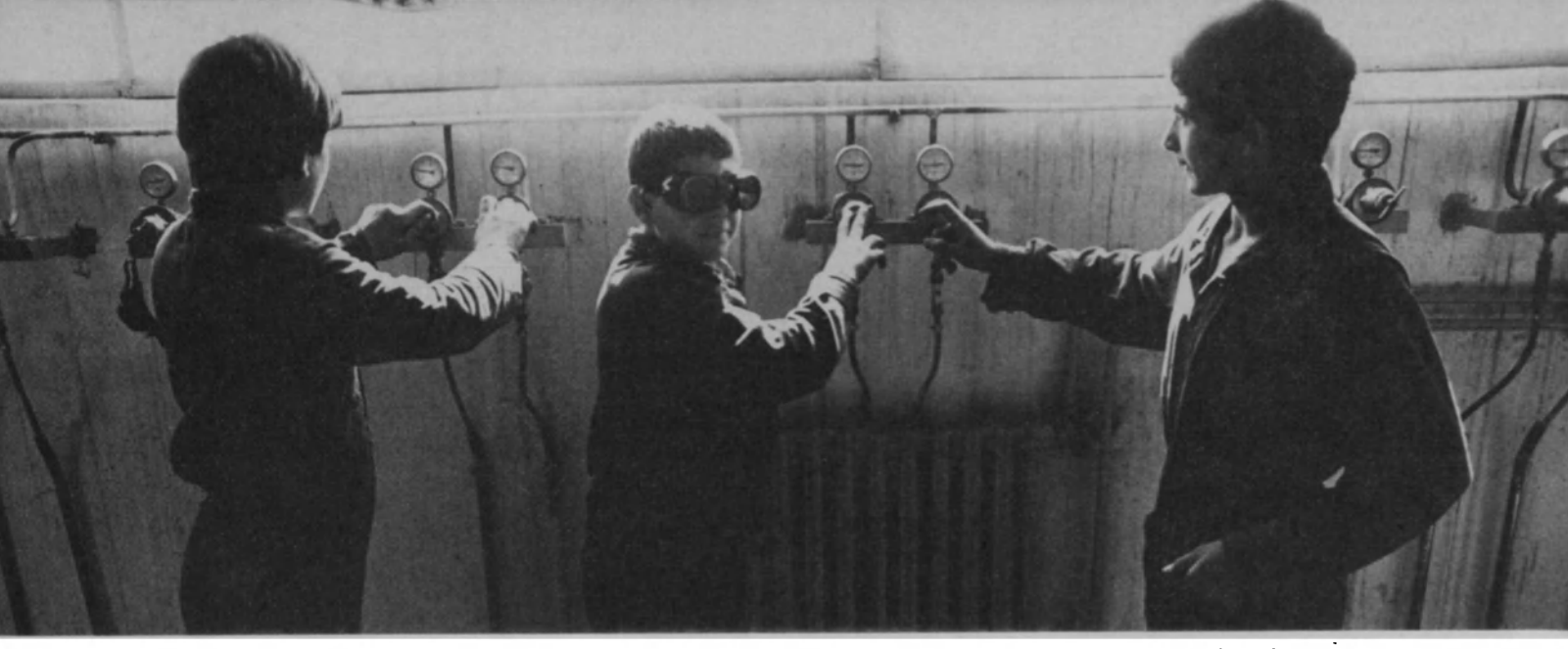
Though it was touched upon in May, readers may be surprised that no mention is made here of the struggle against illiteracy. This is because it is our intention, in the near future, to draw up a comprehensive, detailed balance sheet of what has been accomplished in this vital area.

Our purpose in opening this issue with an examination of "lifelong education" is to stress the need for a thorough democratization of education. The improvement of existing forms of teaching—the transmission of knowledge, professional training, arousal of general awareness—and the elimination of any form of discrimination against any particular group, necessary though these may be, are not enough. All educational possibilities, whether traditional or modern, formal or non-formal, existing or yet to be, must be increased and intensified.

Only by adopting this strategy of action, one which Unesco has followed since its inception, will it be possible to end the compartmentalization and eliminate the injustices of the world's education systems.

Front cover: A student of architecture at work in an UNRWA (United Nations Relief and Works Agency for Palestine Refugees in the Near East) school in Jordan. Photo Gérard © ANA, Paris.

Back cover: a calligraphy competition in Tokyo. Photo Charlier © ANA, Paris



Preparation for working life is an essential function of education systems and a major element in lifelong education. Just as important as its practical value is the contribution it can make to social and cultural development. This opening up of education to the practical realities of the contemporary world is far from being a feature of all education systems. Under its major programme on *Education, Training and Society,* Unesco is giving active support to efforts being made to strengthen the links between education and the world of work. Above, pupils at work in the welding workshop of a technical training school north of Beirut, Lebanon.

Learning for a lifetime

A challenge modern societies cannot afford to ignore

by Ettore Gelpi

LIFELONG education has been a constant of the history of mankind, but there is a tendency to think of the history of education in terms of formal pedagogy and the written word. Yet the history of education, which in reality is the history of lifelong education, is a totality of actions, policies, theories, utopian visions and rival educational projects and is the record of profound contradictions between these different elements.

Today, lifelong education is faced with a number of obstacles. Reform of educational structures is often blocked by social and juridical resistance. Opening up the school to the community and introducing productive work into the curriculum, giving legal status to the transition period between school and work, making the work experience itself an educational experience, all this seems to present difficulties for the educational and productive systems. Examples of the constraints imposed by the productive system include the international division of labour (very unjust for certain countries), the fragmentation of the labour market, inequalities in the training provided by businesses of differing size and type, and the rigid social divisions of the place of work.

Other constraints affect the educational system and act as a brake on the extension of lifelong education—a standstill in the resources allocated to education, inadequacy of the initial and further training of teaching staff with regard to creative and productive activities, and difficulty in recruiting non-teaching educators (scientists, technicians and qualified tradesmen and agricultural workers).

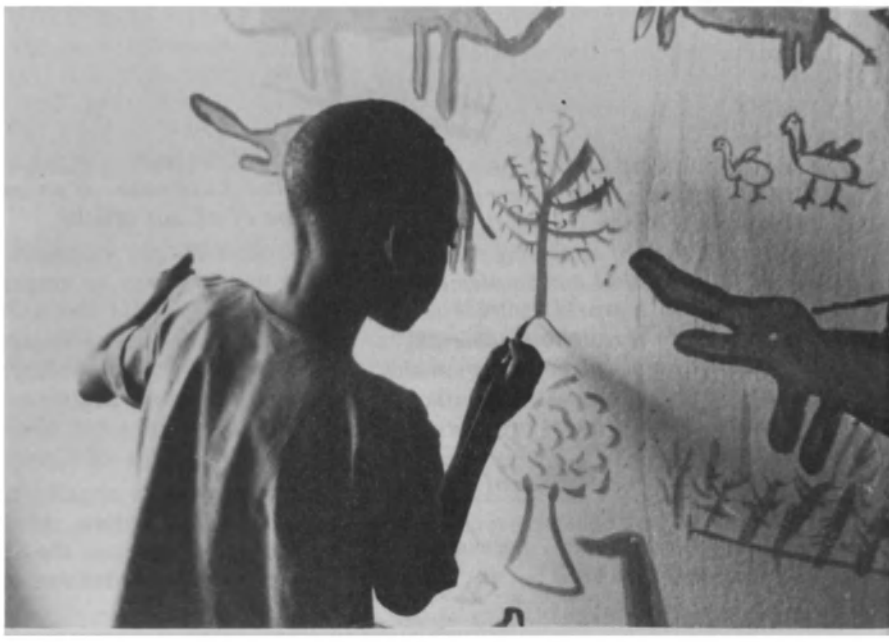


Photo © Agence de Co-operation Culturelle et Technique, Paris

ETTORE GELPI *is in charge of Unesco's activities in the field of lifelong education. He is vice-president of the committee on the sociology of education of the World Sociology Association and the author of* Storia dell'Educazione *(Milan, 1967),* A Future for Lifelong Education *(Manchester University Press, 1979) and* Institutions et Luttes Éducatives *(Paris, 1982).*

Legal obstacles to the reform of educational systems are also far from being minor ones. Laws and regulations continue to confine education within a given space and, to some extent, to a given age bracket and to militate against making education available anywhere and at any age. The process of making the necessary provisions (scholarships, evaluation criteria, sabbatical leave, alternation between periods of study and of work) to render the right to education throughout life effective for all is slow. Furthermore, as the educational span grows longer and claims to the right to adult education grow stronger, psychological, social and cultural resistance is encountered.

This resistance to the democratization of educational systems manifests itself in the creation of parallel educational structures alongside the public educational institutions and the introduction of "innovations" in assessment criteria which in effect represent no more than the re-introduction of selection in a barely disguised form. Hence the importance in policy-making and the planning of lifelong education of placing it in an overall social and cultural context rather than treating it in isolation.

In some countries, social policies are linked with educational policies relating to certain periods of life or certain categories of workers (the establishment of crèches, education for the unemployed, for migrant workers and the elderly). The public response to these measures is mixed; on the one hand these educational services are considered useful, but, on the other, there is a feeling that the real problems (the status of women, lack of jobs, the marginalization of immigrant workers, the loneliness of the elderly) remain unresolved.

Positive factors working in favour of new educational policies and activities are, however, to be found both within and outside the educational system. New social relationships and an increasing extension of the time devoted to education give rise, at all stages of life, to new educational and cultural demands which are associated with a desire to participate in the running of society, with the enjoyment of the aesthetic heritage, in short, with a refusal to be left on the sidelines of social and cultural life. The continuing ferment and change in the fields of information and communication are also playing a part in stimulating and increasing this demand.

Creation, research, production (and not simply the transmission of knowledge) can provide an answer to the alienation of the nature of the activities, in particular the educational activities, of non-working time. It is often difficult, however, to establish proper communication between the world of creation and research and that of institutionalized education, even though this is becoming more and more necessary.

It is probable, therefore, that the educational centres of the future will evolve in two different but not opposing directions. On the one hand there will be the need to improve techniques for the transmission of knowledge (programmed learning, audio-visual systems, documentation, etc.), and on the other hand research, creation and production will become, or rather will become again, the key elements of education.

This notion of a convergence between cultural creativity and education has great attraction for children, adolescents and adults; the theatre, dance, music, the cinema seem likely to achieve pride of place in lifelong education, though this will not be easy. The degree of liberty accorded to creative members of society, especially those associated with educational activities, the boldness or the conformity they display, will be reflected in the evolution of education.

Scientific research is a special form of creative activity; it is also a domain in which, owing to lack of proper communication with researchers, institutional education often seems to lose its way. A lot is said about research at schools and universities, but this is only a pale copy of scientific and technological research, both as regards method and content. Unfortunately, research centres are often even more inaccessible to the young than are centres of production.

It is no easy task to construct and breathe life into centres of education in which various forms of creation, production and research can take their place; yet the popularity of circus schools in several countries as a means of providing general as well as professional training is but one example of the attraction of a form of education in which different forms of apprenticeship are combined.

Between the acquisition of knowledge and the full flowering of aptitude for creation, research and production there is a long road to travel. And for this goal to be attained, many places of ▶

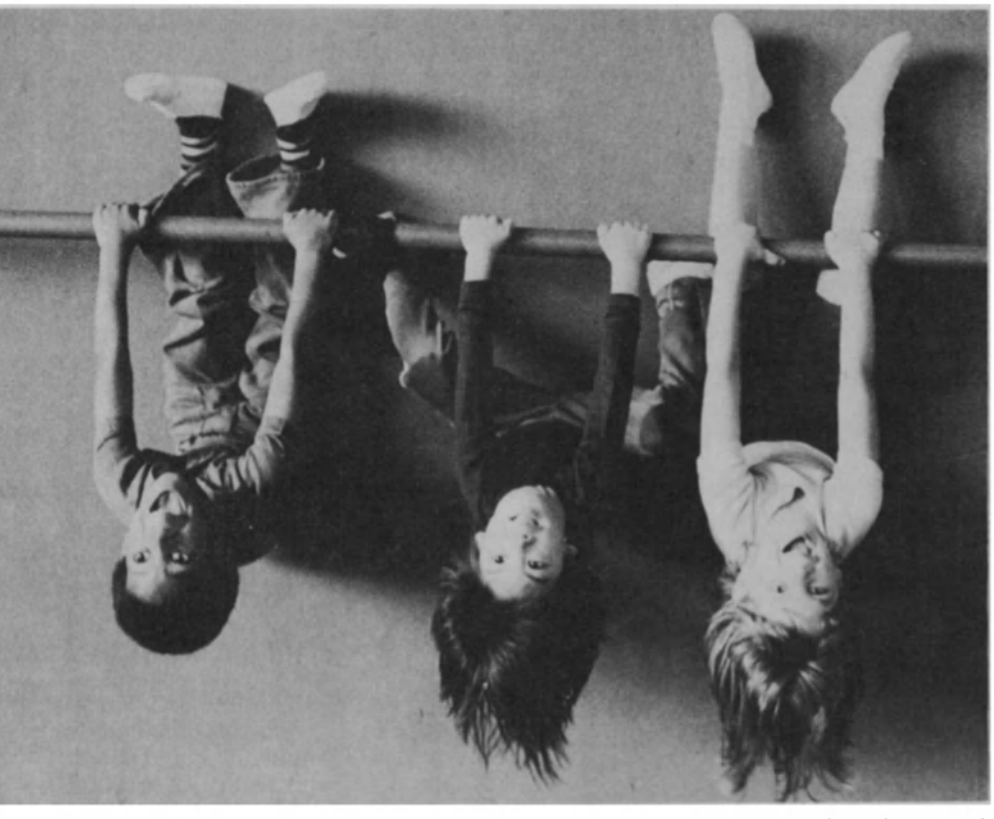


Photo © José Mayans, Paris

Photo Picou © Fotogram, Paris

Physical education and sport are being practiced by an ever-gowing number of men and women. Much remains to be done, however, especially in the organization of school systems, to achieve a harmonious balance between bodily and mental activity. While 80 to 85 per cent of children in developed countries now receive physical education at school, it is estimated that in the developing countries 80 per cent of children do not. The correction of this imbalance is one of the aims of Unesco's programme for *Promotion of Physical Education and Sport*.

Painting, literature, dance, music, the theatre, the cinema are all forms of expression which must take their place in the education of children and adults. Encouragement of creativity, both among individuals and groups, is essential to their involvement in cultural life. Within the framework of its programme *on Creation and Creativity*, Unesco is developing methods of sensitizing and educating the public in relation to the arts. Left, in a school in Niger.

AFRICA
Unesco-assisted projects

WE present below and on pages 18, 22 and 30 a small selection of educational development projects which Unesco is undertaking in different parts of the world. In addition to Unesco's participation, these projects are largely financed by the national governments concerned and by the United Nations Development Programme (UNDP) with, in some cases, contributions from other sources.

MALAWI: Preparing a Literacy Programme

The Unesco-assisted project for Malawi, which became operational in 1981, aims to help Malawi prepare for a large-scale literacy programme which the country intends to launch in the near future. Project achievements to date include the production of a primer and teaching charts, the training of some 250 literacy instructors and 75 supervisors, and the establishment of a National Literacy Board and a National Literacy Centre.

MOZAMBIQUE: The National Institute for the Development of Education

A UNDP-Unesco project is assisting the country's National Institute for the Development of Education in 4 main fields: educational research and evaluation; curriculum development and teacher training; the development of documentation centres; coordination of educational activities in the context of the new national education system. Several programmes have already been successfully carried out, notably in applied linguistics research and the development of educational documentation.

RWANDA: The National Pedagogical Institute and the University of Rwanda

The project, aided by France and Belgium, was launched in 1966 to provide training and advanced training for secondary school teachers. Since then training has been expanded as far as Master's degree level and since 1981 there has been a programme of on-the-spot preparation for doctorates. Over 450 teachers have been trained so far.

ZAIRE: Post-University Training

Since 1975 Unesco and the Department of Higher and University Education of Zaire have been collaborating on doctoral and post-doctoral training at Zaire's 3 universities—Kinshasa, Kisangani, Lubumbashi. The objective is to enable Zaire personnel to take over from foreign teachers in mathematics, chemistry, biology, physics and geography.

► learning and many different periods of learning time are essential, coupled with a new relationship between general and professional training.

The fragmentation of the space/time/age elements of education will result in the withering away of old educational structures and the birth of new ones. Whether there is to be an articulation, a dialectic between the different educational structures (formal and out-of-school, initial and continuing, professional and general, institutional or self-instruction) or a further compartmentalization will depend on the depth and quality of participation of the people in the running of society.

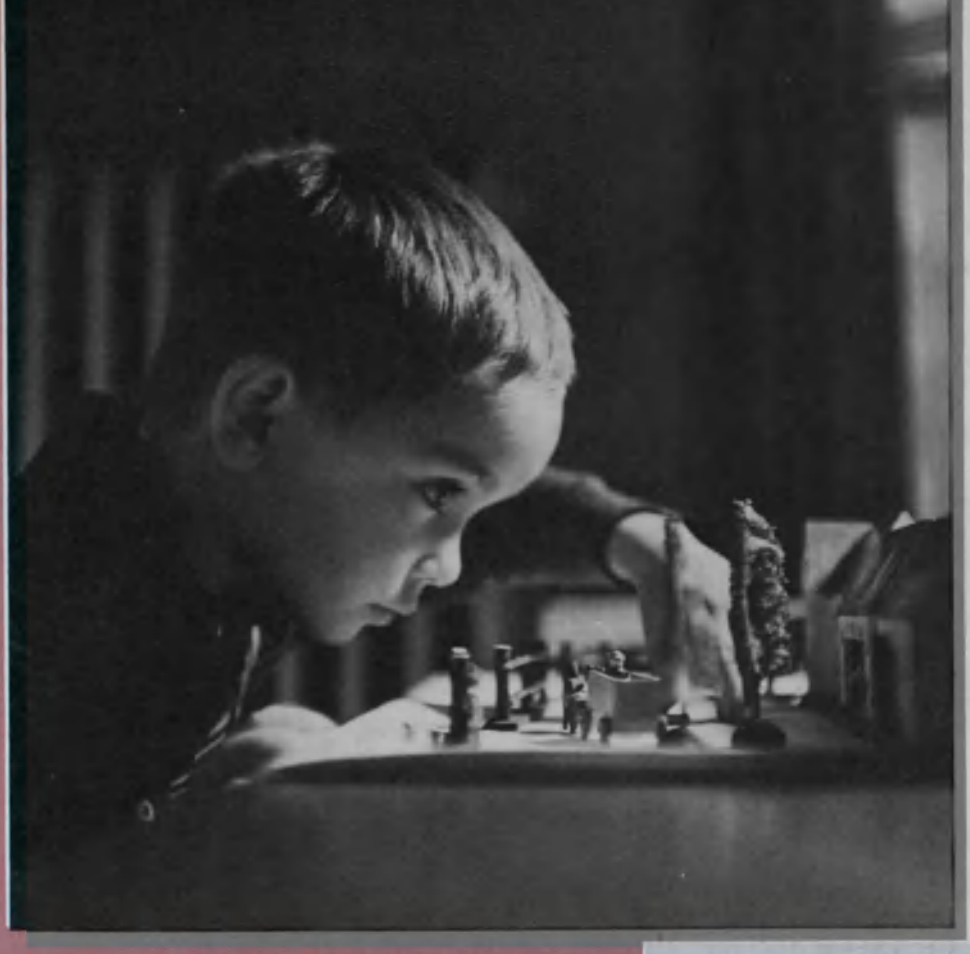
Self-instruction, the oldest form of education known to man, is also evolving rapidly. Advances in communication systems applied to the educational field, the often uncontrollable problems of urbanization, the increasing cost of transportation, the weak linkage between training structures and professional activity, migration between town and country and from one country to another, the increase in non-working time (leisure, unemployment, underemployment, retirement) are all encouraging the development of new forms of self-instruction.

Self-instruction and education for all and by all mean that every individual, institution or association (trade union, political, cultural, social) not only has access to education but can also play an educative role.

Education and self-instruction, individual and collective, in educational institutions, in social and community life, at the place of work, all these different elements of educational space/time provide, perhaps, a clearer idea of the concept of lifelong education.

In the world of tomorrow will lifelong education provide an adequate response to the growing demand for education from individuals and peoples caught up in the reality of the contradictions of everyday life? Teaching people how to live with these contradictions is perhaps the principal task of education today. Education of an "ideal" man, education which is but adaptation, or education limited to strictly professional ends will no longer satisfy the individual, the community or the countries of the world called upon, often at very short notice, to face up to radical changes affecting economic, social and cultural life.

Who will be responsible for initiating policies and activities to further lifelong education? Individuals, the creative members of society, social and cultural organizations, professional educators, all will have a part to play, whether in educational institutions, at the place of work, in the social life of the community, or in the field of leisure. Everyone, whether professional educator or not, will have to contribute



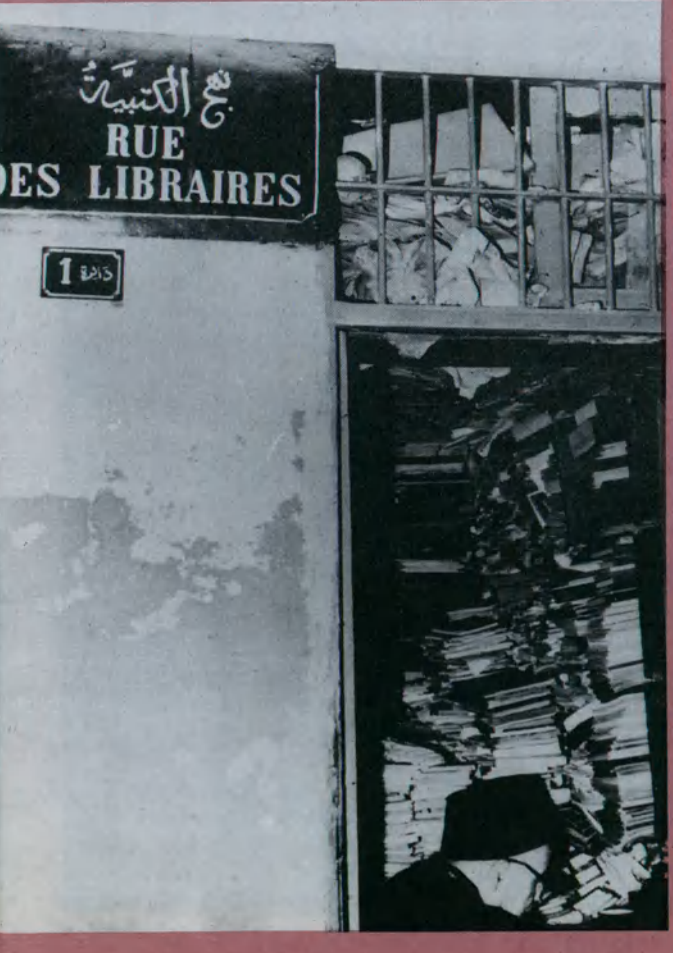
to the preparation of policies, legislation, planning renewal, the administration and the evaluation of education. Furthermore, it will be for those principally involved in the educational process, whether children, adolescents or adults, to define the objectives, the philosophy and the values of education. Those involved in the educational process, from the school to lifelong education, are becoming more and more numerous and present a challenge which existing educational and productive systems have often been reluctant to take up.

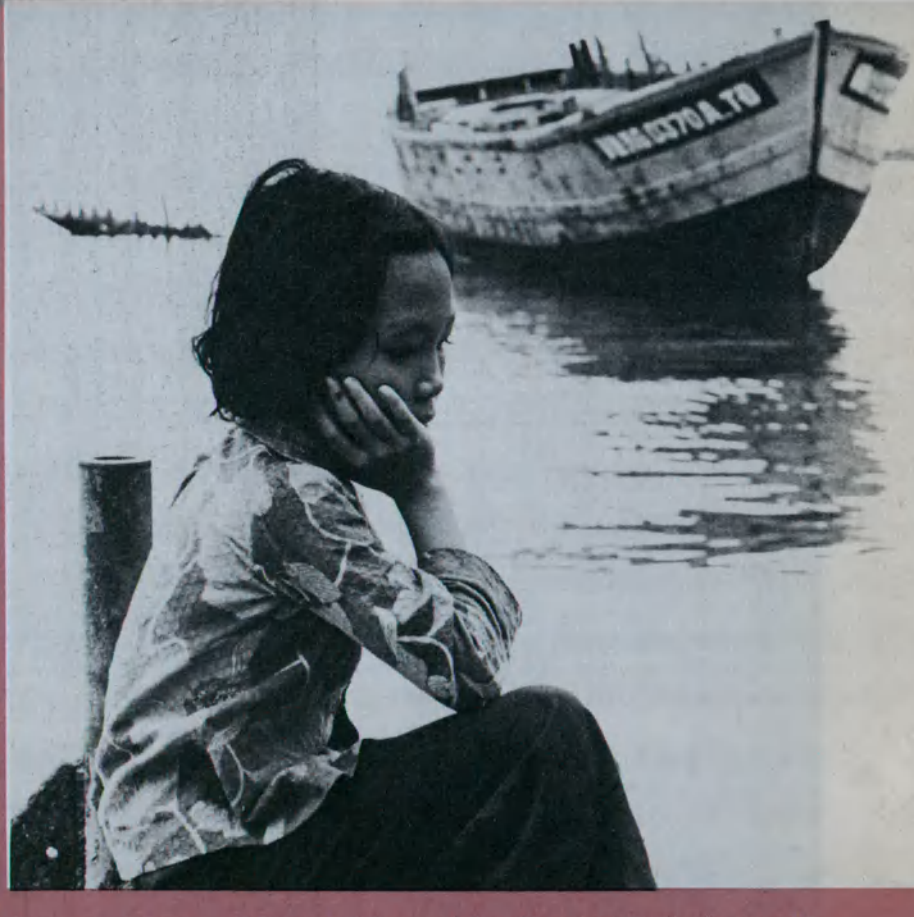
Lifelong education means making full use of a society's human resources. It is an education which meets individual and collective aspirations and needs and whose end is action. It is in the search for this full use of human resources that education stands revealed as the sensitive nerve point of relations between the social classes, between "central" and "peripheral" countries and between individuals fighting for individual and collective human rights and the forces of repression.

■ **Ettore Gelpi**

Games play an important educative role in childhood, helping to develop personality and to build up manual dexterity, a sense of logic and creative ability. They are both a means of expression and an apprenticeship for life. Above, a study in concentration in a school in the German Democratic Republic.

Photo © Thomas Billhardt, Berlin, German Democratic Republic





Refugees form one of largest of the world's educationally disadvantaged groups. There are 10 million refugees in the world of whom 5 million are in Africa. Under its programme for *Promotion of the Right to Education of Particular Groups*, Unesco aims to make the general public aware of the special problems of refugees and to develop the educational possibilities open to them. Above, a young refugee in Malaysia.

Photo J. Isaac, Unicef

It's never too late to learn! The extension of non-working time (leisure, retirement, unemployment) offers increasing opportunities for self-instruction. Left, knowledge in stacks in a street of the old city of Tunis.

Photo Dominique Roger, Unesco

TO FEED
The mother *feeds* the baby

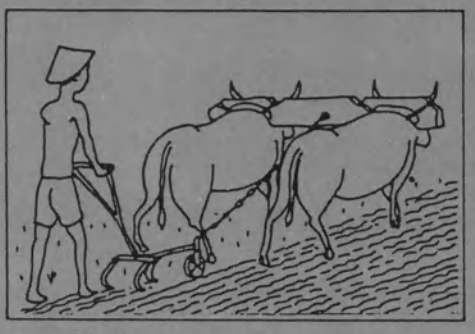
FARMER
The *farmer* ploughs the land with the oxen

allaiter (v.)

la maman **allaite** le bébé

Mampinono zaza ny reny.

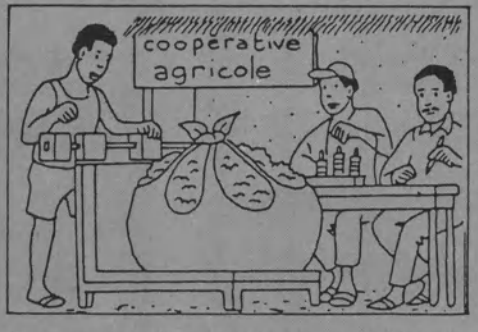
cultivateur le (n. m.)



le **cultivateur** travaille la terre avec les bœufs

Asain' ny mpamboly amin' ny angadin' omby ny tany.

production la (n. f.)



la coopérative agricole achète à bon prix la **production** de coton d'Amadou

Vidian' ny kaoperativa amin' ny vidiny mirary ny hasin' i Amadou

puits le (n. m.)

les femmes tirent l'eau du **puits**

Misintona rano avy ao amin' ny vovo ny vehivavy.

PRODUCTION
The farm co-operative buys Amadou's cotton *production* for a good price

WELL
The women draw water from the *well*

Words in pictures

Guy-José Bretonès, a French specialist in education for rural development, has produced an illustrated dictionary of basic French *(Dictionnaire du Français Fondamental en Images pour les Ruraux,* 1982) as a means of helping Third World rural populations to acquire knowledge which they can use to solve problems in agriculture and in family and social life. The dictionary is intended as a reference book of integrated education for families and rural communities, for cadres in rural development (teachers, nurses, social workers, etc.) and for use in literacy and post-literacy work. It contains illustrations of 1,500 words clearly and simply presented in 1,300 individual figures and 18 full-page groups of drawings. To arouse the learner's interest and motivation, each illustration depicts an everyday activity of rural life. An explanatory caption contains the word illustrated in the drawing. Beneath each caption is a blank space in which the pupil can write the French sentence in his own language. Above, four illustrations from the edition of the dictionary for French-speaking Africa. The handwritten sentences are in Malagasy.

Drawings Vincent Glon and Jacques Zalhès © Editions de l'Harmattan, Paris

Photo Frank Vinken © Petersschule, Oberhausen, Fed Rep of Germany

A Unesco Fellowship holder from Guinea visits an Associated School in the Federal Republic of Germany.

Education for international understanding

Unesco's Associated Schools Project

ASSOCIATED Schools do not constitute a separate category of educational establishments, set apart from the mainstream of education in their respective countries. From its beginnings in 1953, Unesco's Associated Schools Project has been designed for integration into existing structures, just as its basic theme—education for international understanding—is intended for incorporation in existing curricula and not as an additional syllabus or subject for insertion into a convenient gap in the timetable.

Associated Schools are, quite simply, educational establishments in Unesco's Member States at the primary, secondary, vocational and teacher-training levels of education which agree that teaching for tomorrow's world must involve teaching the basic principles of international understanding and co-operation for peace, the neglect or refusal of which may well deprive the world of its tomorrow, and which assume the responsibilities of providing such teaching, both on their own and in collaboration with other partners in the Project.

Over the years, the Associated Schools Project has greatly expanded. In 1953, there were 33 participating schools in 15 Member States; today there are some 1,600 participating institutions in 81 Member States throughout the world at primary, secondary and teacher-training levels.

The National Commissions for Unesco are generally responsible for the selection of participating schools and institutions, and for the transmission of applications to the Unesco Secretariat.

To the greatest extent possible, Associated Schools are left to devise and implement their own activities, but they are expected to concentrate on four basic topics: world problems and the role of the United Nations system in solving them; human rights; other countries and cultures; and man and the environment.

Over the years, the point of focus has shifted from the institutions themselves, i.e. their history, structure, functions, machinery, etc., to the world problems they are called upon to solve. Thus, although the contents of the teaching remain basically the same, the point of departure is different. A world problem such as hunger, the arms race, development, etc., is studied by the students. Once they have become sensitive to the problem and understand some of its implications they search for possible solutions. ▶

The boundaries on this map do not imply official endorsement or acceptance by Unesco or the United Nations

Countries Participating in the Associated Schools Project

As of 1 June 1983 there were Associated Schools in the following Member States of Unesco:

Argentina
Australia
Austria

Bahrain
Bangladesh
Belgium
Benin
Bolivia
Brazil
Bulgaria
Burma
Burundi
Byelorussian Soviet Socialist Republic

Canada
Central African Republic
Chad
Chile
Colombia
Costa Rica
Cyprus
Czechoslovakia

Denmark
Dominica
Dominican Republic

Ecuador
Egypt
Ethiopia

Finland
France

German Democratic Republic
Germany, Federal Republic of
Ghana
Greece
Guatemala
Guyana

Haiti
Honduras
Hungary

India
Indonesia

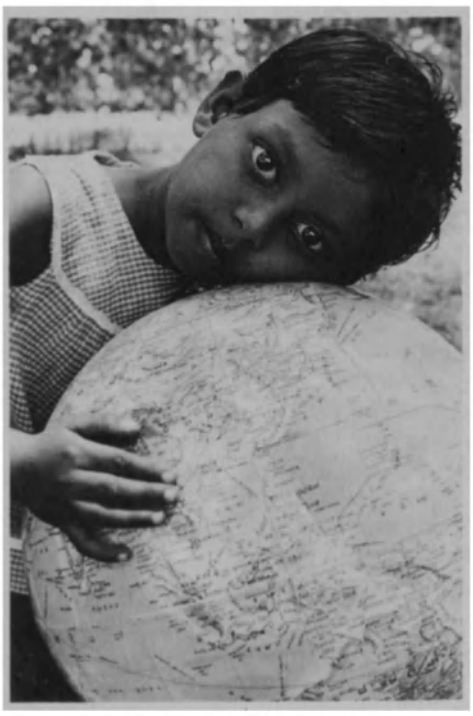


Photo Satyan, Unicef

Source: Associated Schools

Ireland
Israel
Italy

Jamaica
Japan
Jordan

Kenya
Korea, Republic of

Malaysia
Malta
Mauritania
Mauritius
Mexico
Mongolia
Morocco

Nepal
Nigeria
Norway

Pakistan
Philippines
Poland

Romania

Saint Lucia
Senegal
Sierra Leone
Spain
Sri Lanka
Sudan
Switzerland

Thailand
Togo
Tunisia

Uganda
Ukrainian Soviet Socialist Republic
Union of Soviet Socialist Republics
United Kingdom
United Republic of Cameroon
United States of America
Uruguay

Yugoslavia

Zambia

The value—as a means of stimulating interest and imparting knowledge—of organizing days or weeks devoted to specific organizations and their activities (e.g. Human Rights Day, United Nations Day, World Health Day, International Literacy Day, etc.) remains uncontested and can be accompanied by a problem approach, in which students are led from an awareness of and involvement in social, cultural and economic issues which are of direct concern to themselves and their communities, to an understanding of the broader international implications of these issues.

The study of human rights has always occupied a key position in the experiments of the Associated Schools Project, since it is clear that a grasp of the principles involved is a prerequisite to international understanding.

Teaching is based on two complementary approaches. The first which may be termed "historical" deals with the evolution of the concept of human rights throughout the ages in different societies, and their contemporary significance; the second approach is "comparative", and is concerned with social relationships at all levels—from the local to the global—where human rights are an important issue (the rights of women, individual and national self-determination, racial or other forms of discrimination, the status of minorities, problems of immigrant workers, employment and unemployment, the citizen and the law, etc.)

Respect for human rights should be perceived as a reality rather than an ideal, and should be reflected in the organization and conduct of school life, in classroom methods and procedures, and in relations between students and teachers as well as between the teachers themselves.

Outside the classroom and in the direct contact with the realities of their community—an essential element of the activity of Associated Schools—students have ample opportunities of learning from personal experience and of bridging the gap between awareness of problems and action designed to alleviate or solve them.

Comprehension of other countries and cultures, which is simply a paraphrase of "international understanding", essentially implies recognition of their right to be different. But recognition of this right is not always concomitant with the will to co-operate.

Experiments conducted during the early years of the Associated Schools Project showed that it was not enough to create a passive tolerance of differences by showing *how* other countries and cultures were different from those of the students concerned; active interest depended on objective explanations of *why* such differences existed, and thus of their social, economic and cultural particularities. Moreover, the study of world problems involves the study of the countries where those problems are most keenly felt, and of the specific circumstances of environment and history which make each country different from its neighbours.

In recent years, the Associated Schools Project has begun a series of experiments in which teachers and in some cases even students in a given country select another country as a subject of study, investigate its social and development problems in their own classrooms and then travel to that country to see for themselves how the problems are being solved.

Awareness of the universal implications of immediate, local issues can lead to a thorough analysis of the social, economic, ecological and other problems which all converge on the environment crisis, and place on-the-spot initiatives in the broader context of the struggle to preserve or restore the fragile balance of the earth's resources—a balance which affects not only the relations between the different elements of the biosphere but also the relations between the industrialized countries and the countries of the Third World.

Investigation, for example, of a local case of pollution can lead to an investigation of its social and economic ▶

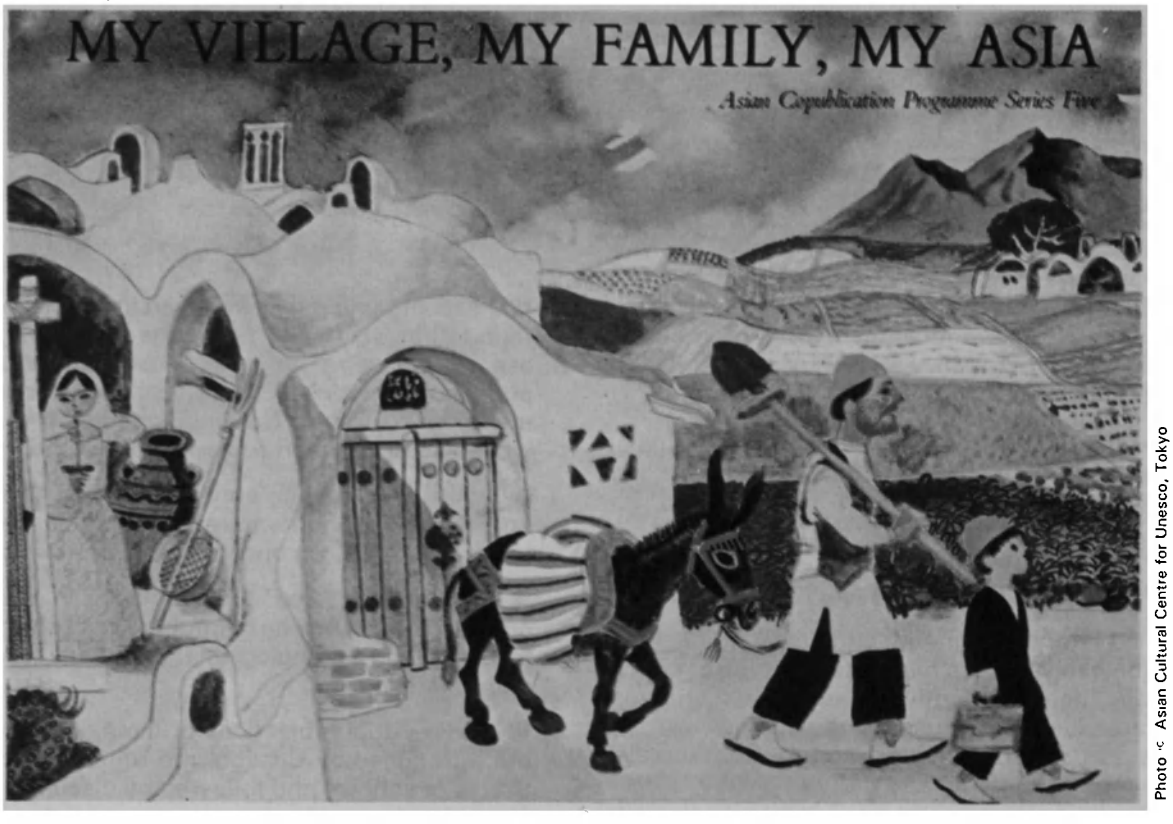


Photo © Asian Cultural Centre for Unesco, Tokyo

The first in a new series published by the Asian Cultural Centre for Unesco, Tokyo, *My Village, My Family, My Asia,* a 64-page book lavishly illustrated in colour, describes for the young reader a typical day in the life of a village family in each of 15 Asian countries. Above, in the Kashan region of Iran, Rahim sets out for school while his father heads for a day's work in the fields.

▸ causes (patterns of production and consumption) and to the study of preventive or remedial measures (local, national or international legislation, community awareness).

Exchange of correspondence and materials between Associated Schools (reports, surveys, maps, photographs, slides, tape-recordings, etc.) might permit comparison between methods of adaptation to different social, economic or natural conditions, and lead to reflection on the nature of the ideal human settlement.

But how are the special activities designed and implemented? As already pointed out, "Education for International Co-operation and Peace" should not be considered as a separate subject for insertion in the timetable. Experience has shown that this education can be effectively provided within the framework of existing courses and without overloading or disrupting the curriculum. What is frequently required, however, is some measure of reassessment of the programme as a whole, and its realignment in accordance with the principles of international education as referred to in the Unesco Recommendation on education for international understanding, co-operation and peace and education relating to human rights and fundamental freedoms.

What is essential is that the topics for study should be selected by agreement between teachers and pupils, and that the special activities should be designed co-operatively, with the participation of all concerned, including parents and members of the local community when extramural projects are envisaged.

Courses in history, geography and social studies certainly lend themselves more readily to this type of education, and have most frequently provided the framework for special activities. But foreign languages, civics, current events, natural sciences, art and music have also made their contribution in many programmes.

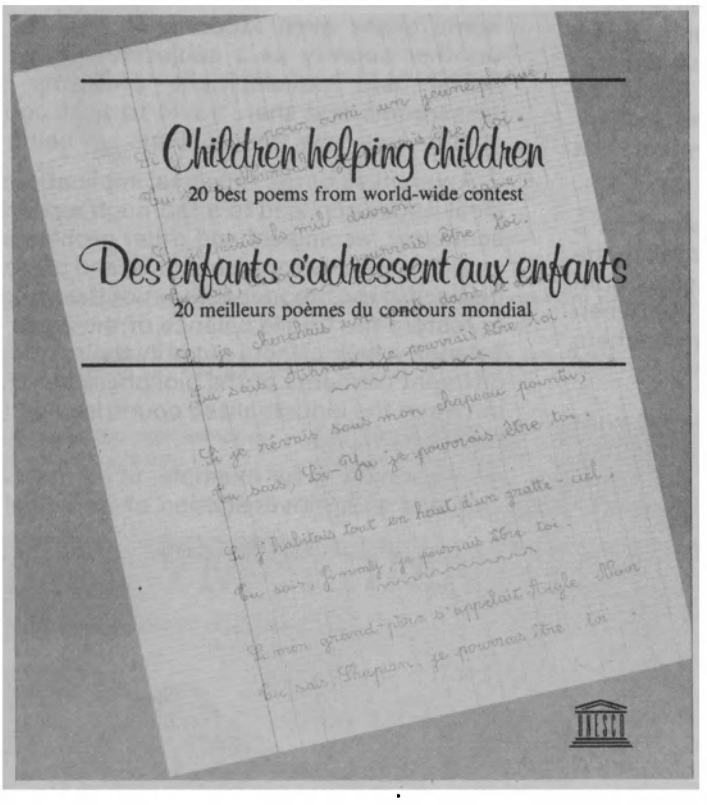
Education for international understanding is closely related to the formation of attitudes. Hence the efficacy of experience-centred teaching, particularly with younger classes.

It might be pointed out that the fundamental assumption of this experiment is that awareness of international problems cannot be realized by cognitive elements alone but supposes a socio-affective dimension, based on a better understanding of oneself and one's immediate environment as a prerequisite to a better understanding and appreciation of other people and other countries.

The number of special activities that may be conducted in the context of the Associated Schools Project and within the framework of its four main topics is virtually limitless, and depends almost entirely on the enthusiasm and ingenuity of the participants. The following examples may give some idea of the range of possible activities.

Classroom activities

■ Projects intended to develop a better knowledge and appreciation of other countries benefit from correspondence and exchanges with schools abroad.


Children helping children
20 best poems from world-wide contest
Des enfants s'adressent aux enfants
20 meilleurs poèmes du concours mondial

Left, the cover of a Unesco booklet, *Children Helping Children*, which contains the 20 best poems from a world poetry contest for children under the age of 14, held in 1980 and sponsored by Unesco and the Radio Corporation of America. Almost a million children from 57 countries took part in the competition and the 20 best poems were selected by an international jury of poets, writers and musicians. The first prize went to a 13-year-old Filipino girl, Odina E. Batnag, for her poem "I am but a small voice". All the poems are reproduced in their original language and are accompanied by translations in English and French.

Photo Unesco

■ Teachers and pupils engaged in special projects have found that visits from persons belonging by birth or association to a country chosen for study, experts engaged in work or technical assistance and staff members of United Nations agencies can make an invaluable contribution to their programme.

■ Essay and drawing contests have been successful in encouraging students to reflect more deeply on specific world problems or concerns.

■ Simulation games and exercises in perception and communication can be helpful in establishing stronger intellectual and psychological foundations for international understanding.

■ Audio-visual projections of films, slides, video-tapes, etc., produced by Unesco, the United Nations, Member States or schools and followed by discussions are useful in making young people more aware of the work and role of the United Nations system.

■ The preparation of exhibitions and displays is useful in marking the culmination of special projects.

Extracurricular activities

■ The organization of model assemblies of United Nations bodies has been an effective way to give students better insight on how international conferences and debates are conducted.

■ Unesco clubs, and art, music and drama circles have provided excellent opportunities for cultural activities and community-oriented activities.

■ Participation in fund-raising campaigns such as the Unesco Co-operative Action Programme/Associated Schools Guatemala Project (to provide educational equipment and materials for schools) can further international co-operation and learning about other countries and people.

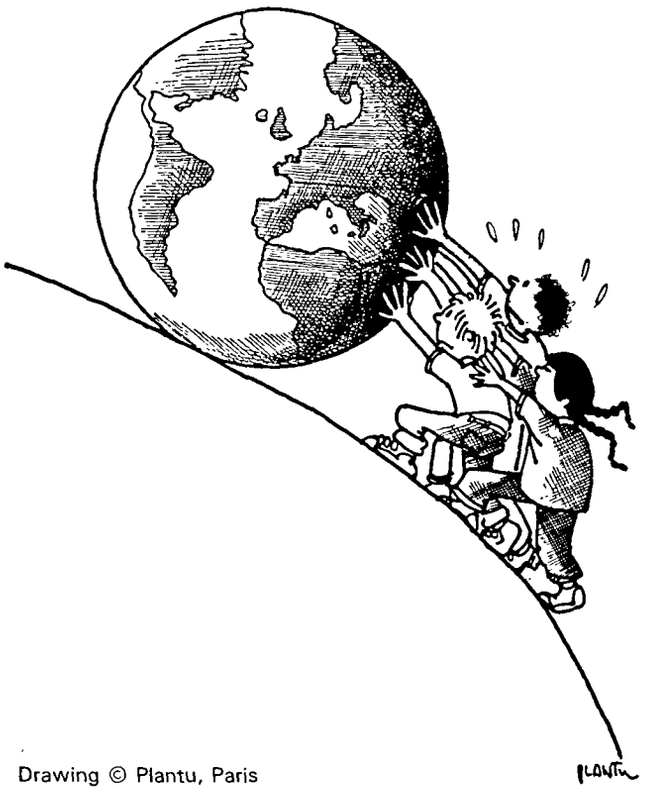
■ Exchange programmes of teachers and/or students between schools in different cities or countries can serve as a positive framework within which to promote education for international understanding.

■ Successful visits have been made to the headquarters and regional and national offices and project sites of international organizations by school teachers and students.

■ Since international understanding begins at home, students might wish to conduct surveys and interviews in their community in order to learn more about their immediate environment as well as to carry out development projects for improving their surroundings.

In view of the increasing number of schools in Unesco Member States taking part in the Project and the numerous reports of activities submitted by schools to the Secretariat, the actual record of the Associated Schools Project during its first twenty-five years is positive, revealing as it does a community of views regarding such education, and clearly indicating the multitude of teachers and students who are convinced that it is necessary, if not vital, and who are willing to devote themselves to its attainment. ■

THE CHILDREN'S WAY



Drawing © Plantu, Paris

by Marcel Canetti

IN the certainty that they are powerless to change it, the young people of today refuse to participate in a world unsuited to their aspirations. Their horizons blocked, the future heavy with menace, they are oriented towards discouragement, to dropping out or to violence rather than towards a zest for life. Adults react by withholding their confidence, a dynamic is created and the generation gap widens.

Such a structure is unacceptable in the present world situation which cries out for collaboration between the generations. It is to bring about this rapprochement, to encourage everyone to contribute to the righting of the situation, that an association, **The Children's Way**, *has been created.*

Among the measures the association proposes are:

- *Adoption of a ten-point text demanding due respect for the younger generation so that young people will not find themselves unwittingly or unwillingly dragged into a situation from which there is no way out.*
- *An end to the many conferences on disarmament which have failed to prevent the world arsenal from increasing millions of times in the last twenty-five years, and their replacement by a change in tone in newspapers and television programmes. To put out a fire water hoses must be directed to the base and not to the top of the flames. At the base, at the grass-roots, is to be found that state of mind which is, to a large extent, the product of what each one of us reads and hears.*
- *Encouragement of entente and a halt to rivality in all those domains where international competition is rampant so as to avoid the discouragement of peoples who, each day, have to face up to increasingly difficult situations.*
- *Encouragement, beginning with those of school age, of a new understanding of the concept of self-preservation. Our growing interdependence means that it is no longer possible for an individual or a country to build walls high enough to form a shield against others. Good relations between men are no longer a luxury, they have become a vital necessity.*
- *A shift in priorities in schools towards greater motivation. A passion or a high degree of interest in an activity seems to be more important than a high level of knowledge. Such a switch in priorities could have the effect of making individual interests coincide more closely with those of society.* ■

MARCEL CANETTI, *French engineer and former mathematics teacher, is the founder of* The Children's Way *association, the headquarters of which are at Meudon (France).*

A world human rights congress in Costa Rica

A World Human Rights Congress was held last December in the old Costa Rican city of Alajuela. The Government wished to use this occasion to celebrate the 33rd anniversary of the constitutional reform by virtue of which Costa Rica proscribed "the army as a permanent institution" and abolished the death penalty. At the end of the Congress, the first of its kind to be organized by a State, the "Alajuela charter", published here in its entirety, was unanimously approved.

The Alajuela charter

THE first World Human Rights Congress, meeting in the 200-year-old city of Alajuela de Costa Rica from 6 to 12 December 1982, has proved the importance which an entire people attaches to the rights and duties of the person. It has also showed that it could rationally deliberate, examine and discuss problems pertaining to human rights in an atmosphere of total liberty.

Accordingly it considers, recommends and resolves:

1. *That given the democratic institutional system of Costa Rica, characterized by freedom, justice and the lack of an army, it would be fitting for Costa Rica to become a world centre for study and research into human rights, for the defence of human rights and the diffusion of information about them; for this centre a speedy, reliable intercontinental information network should be established, covering everything connected with human rights experiences and problems in different parts of the world.*

2. *That the international community should recognize and guarantee to Costa Rica a status of perpetual neutrality, in recognition of the fact that it is the only country that has unilaterally opted for peace by deciding, 33 years ago, to abolish its army as a permanent institution.*

3. *That it supports the proposal made by Sean MacBride (Nobel Peace Prize) and Ben Whitaker that the United Nations should establish as soon as possible its own world radio and television information system on human rights.*

4. *That the Ibero-American services of the above project, at least, should begin in Costa Rica.*

5. *That Costa Rica should intensify its campaign in the United Nations for the setting up of a High Commission for Human Rights.*

6. *That the world's educational systems should be based on the study and interdisciplinary practice of human rights.*

7. *That an international human rights investigating commission be created.*

8. *That an international penal court on human rights be set up.*

9. *That a political régime characterized by public freedoms, social security with economic guarantees, ideological pluralism and the periodical alternation of political power through genuine free elections constitutes the securest guarantee of the full exercise of human rights in the world.*

10. *That the industry of war, especially nuclear, bacteriological and chemical, represents a constant threat to every form of life and is an immoral attack on human dignity. To denounce and combat it wherever it exists is a fundamental right and duty for free men.*

11. *That rebellion against any military, tyrannical, despotic and dictatorial régime is a fundamental human right and duty. It should be recognized as such, guaranteed and broadly extended by the international community.*

12. *That the death penalty, whether legal or not, is a practice which attacks the supreme human right, the right to life. It should therefore be abolished.*

13. *That the judicial practice of physical and mental torture constitutes a flagrant violation of human rights. It is the duty of all free men to denounce and combat this sadistic and abominable practice and to make the greatest efforts to win approval for the International Covenant on Torture and the Optional Protocol of the United Nations.*

14. *That political régimes based on social, religious, political, linguistic and economic concepts and practices that discriminate against national minorities, or discriminate on grounds of sex or other factors, constitute a historical aberration and an intolerable affront to the universal conscience of human dignity. Men and peoples who love liberty, democracy and justice have the right and the supreme duty to denounce and combat these practices.*

15. *That it is of paramount importance to awaken the conscience of men, peoples and nations regarding human rights, and that consequently it is of the highest importance that a second world human rights congress be held, taking account of the experience of the first, at a place and a date which will be decided after consultation and deliberation involving all the participants in the present Congress.*

Alajuela the twelfth day of December 1982

What's new in science teaching?

First organized by University College, Cardiff (UK) in 1981, an experimental competition for schools in which drama is used as a vehicle for presenting, understanding and enjoying science was so successful that it has become an annual event. Each entry is a presentation, devised and performed by children from junior, middle or secondary schools, of an episode from the history of science, technology or engineering, a controversial issue related to the social consequences of science and technology, or the exposition of a scientific concept. Right, pupils from Bodringallt Junior School, Ystrad Rhondda, South Wales, depict water in a scene from their prize-winning 1982 dance-drama *Metamorphosis* which illustrates the compatibility between Darwinism and Christianity.

Photo courtesy of University College, Cardiff, UK

by Mircea Malitza

NEW developments in the exact and natural sciences have little direct influence on the curriculum. After all, the requirements of social life guide education in general; the aims of education are to provide the student with whatever he needs for active, intelligent participation in life.

Mathematics thus becomes increasingly "mathematics for all"; its aims concern the individual as well as society, and increasingly affect our culture and civilization.

The reform of the curriculum is a specific process involving the developmental characteristics and educational traditions of each country. It seems to be reasonable to use a negative model indicating which subjects should not be taught since they are totally outdated and useless. Such a list could only be drawn up by a large panel of specialists.

Until now the objectives of mathematics teaching have mainly been concerned with the logical and formal aspects, helping the child to acquire the capacity for rigorous thinking, free from logical contradictions. This is insufficient; in mathematics as in other fields, education should not shrink from an effort to grasp meanings. Progressive learning, in which the pupil is exposed to a variety of situations in which the use of mathematics becomes meaningful, should accompany the axiomatic treatment.

Intellectual curiosity should be cultivated. Only inquisitive, critical minds can go beyond the superficial aspects of mathematics. In this way creativity is also developed; it cannot be encouraged by the deductive presentation of a finite, consistent system of theories. To arouse students' interest it is necessary to point out the origin of concepts so that they can discover by means of exploratory investigations the notions that are to be learned. This presupposes, along with a logical exposition, a psychological one in which more attention must be paid to historical developments.

A generally acknowledged objective of mathematics teaching is the development of probabilistic as well as deterministic thought. This process should be initiated in the first elementary grades, especially since mathematics is increasingly bound up with science in which a probabilistic approach is common, and notions related to this approach are not beyond the understanding of students.

A final objective concerns the development of the capacity to perceive, and not only to solve, problems. Along with the usual activities of solving problems and proving theorems, students should also have experience of solving their own problems and proving their own theorems. This issue is related to creativity and understanding, and is far too often overlooked.

Certain themes should not be neglected in mathematics teaching. Some of them have already been included in many syllabuses and include such subjects as probability, statistics, discrete mathematics and matrix theory. Others will be included very soon, namely: courses in the construction of mathematical models; courses in scientific organization; and subjects from computer science (informatics) such as algorithms, formal languages, elementary numerical analysis, programming; elementary education in systems science; and applications as an integral part of mathematics teaching. ▶

MIRCEA MALITZA, *of Romania, is professor at the faculty of mathematics of the University of Bucharest and a former minister of education of his country. He has lectured on international affairs at academic centres in Asia, Europe and the United States. He is the author of books on education and mathematics, and co-author of the report to the Club of Rome entitled* No Limits to Learning.

▶ Psychologists point to the fact that intellectual maturity depends largely on having the opportunity to participate in activities. Hence there is a need to devise activities which lead the child to personal discovery. Activities must be rooted in reality, permitting pupils to investigate and examine the environment. They should be encouraged to collect data for themselves and devise their own problems. Mathematical applications can be envisaged in real-life activities such as census-taking and meteorological records.

The impact of new technological inventions should also be considered from the point of view of participation. Pushed to its extremes, the technicization of teaching evokes images such as that of the student isolated in a cubicle listening to a taped lesson or sitting in front of a computer terminal pushing buttons marked "yes" or "no", staring mesmerized before a visual-display screen—all of which are instances of non-participatory learning. However, if used judiciously, technological aids enable students to concentrate on problems and their solutions instead of cumbersome computations. Computer simulations, for example, permit students to investigate more variants of a problem situation.

In science teaching, it seems that the general orientation is towards the creation of "accomplished", open-minded individuals who are aware of the enormous destructive potential of science. The future scientist should be actively involved in society and be aware of his responsibilities.

Almost all contemporary sciences use models as a means of investigating both the physical and social phenomena of the real world that surrounds them. Models may be simulated on computers, and this opens new perspectives in secondary education. Good pupils are often disappointed when, after learning classical mechanics and acquiring a personal outlook on the functioning of nature, they are told that they were wrong and that the theory of relativity alone corresponds to reality. This is a result of inadequate teaching methods that place too much emphasis on the basic hypothesis of the Newtonian model, and do not critically discuss the possibility that it may not necessarily correspond to reality. If we teach pupils to conceive physical theories as a changing mass of facts, theorems and ideas, then we shall come very close to the ideal of modern thinking.

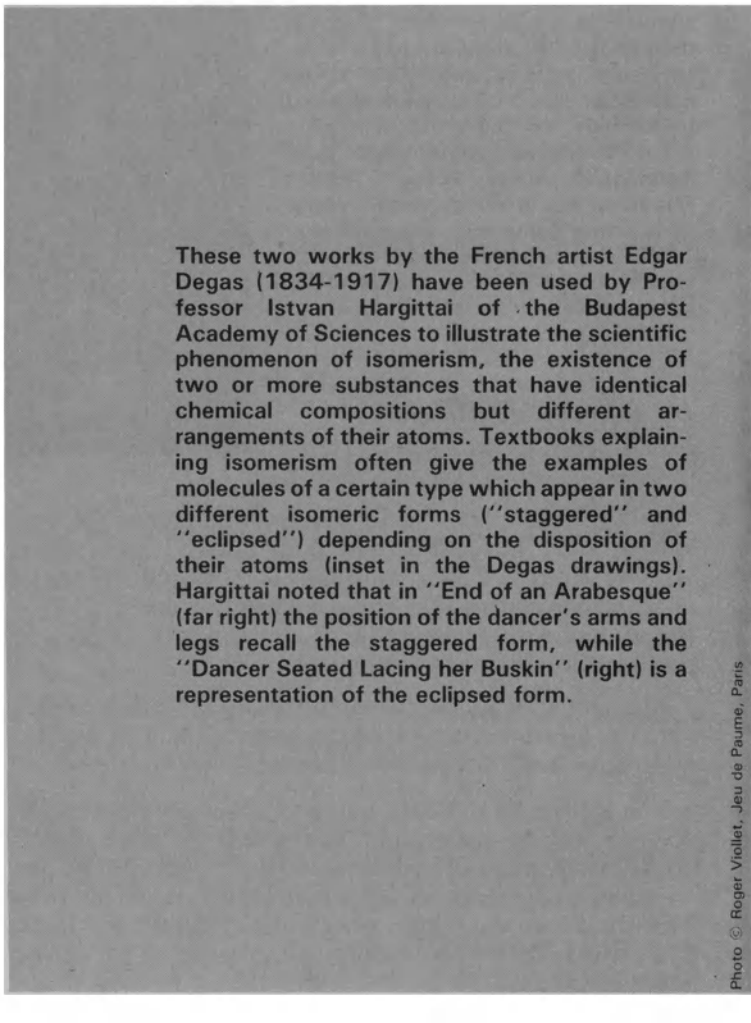
Integrated education has been intensively debated. Thus there are discussions on "global" curriculum integration, the integration of theory and practice, the integration of the natural sciences and the social sciences, vertical and horizontal integration. A profusion of interesting works have recently appeared on this theme.

The distinctive characteristic of contemporary science is undoubtedly the quantity of data. If science continues to develop at the present rate, specialization will remain one of the major characteristics of the scientist in the coming decades. The difficulties of such a situation are well-known: limitation to a narrow field of knowledge can hinder the understanding of general phenomena. One method of coping with this problem is to promote research groups as opposed to the individual approach to science.

The integration of mathematics with physics and chemistry seems at first sight superfluous, since it is a natural process. However, there is still plenty of room for improvement, especially when the material is designed for younger pupils.

Mathematical problems, which are often abstract, could generally be presented by demonstrating their relevance to physics, particularly as regards probability theory, the notion of complex numbers, the concept of limits, the introduction and utilization of differential calculus, etc. These examples are designed to show that it would be well worth while to focus mathematics teaching on the application of mathematics to physical phenomena.

Although the integration of physics with chemistry is almost inevitable, the two are still often taught as if they were separate subjects. The demand for flexible forms of education calls for the use of a whole range of methods borrowed from the classic type of education. Non-formal education must be carefully planned to complement and supplement formal education. The most often quoted forms of free scientific activity that concern mathematics, physics, chemistry and related subjects are the following:



These two works by the French artist Edgar Degas (1834-1917) have been used by Professor Istvan Hargittai of the Budapest Academy of Sciences to illustrate the scientific phenomenon of isomerism, the existence of two or more substances that have identical chemical compositions but different arrangements of their atoms. Textbooks explaining isomerism often give the examples of molecules of a certain type which appear in two different isomeric forms ("staggered" and "eclipsed") depending on the disposition of their atoms (inset in the Degas drawings). Hargittai noted that in "End of an Arabesque" (far right) the position of the dancer's arms and legs recall the staggered form, while the "Dancer Seated Lacing her Buskin" (right) is a representation of the eclipsed form.

Photo © Roger Viollet, Jeu de Paume, Paris

- Special publications and reviews for pupils containing series of problems or open situations to be worked out outside school;
- Science clubs or societies the activities of which include carrying out projects, designing and building models of specific items of apparatus, conducting surveys, collecting data and materials, ecological investigations;
- Competitions on various subjects and at various levels. They should be a means of furthering learning in a spirit of friendship;
- Popular scientific centres or museums endowed with scientific libraries and facilities for showing scientific films;

- In schools: organization of scientific exhibitions, productions by pupils on scientific subjects to be broadcast on closed-circuit radio;
- Science fairs, youth science camps, excursions and field trips, quizzes;
- Distance teaching by correspondence, broadcast courses on national radio and television, and multimedia teaching systems supported by a wide variety of audio-visual aids such as slides, tapes, cassettes, records, open-circuit radio and television broadcasting.

The teacher is and will continue to be the keystone of the educative process. In spite of many attempts in several countries to replace the teacher with monitoring devices and self-testing systems for pupils, there is no chance that the teacher/human being will be replaced by the teacher/machine.

It seems that in the future the computer will be mainly used for communication rather than for computer-assisted teaching.

Teacher training is an important problem. The integrated teaching of science presupposes quite important changes in the higher education of future teachers.

In conclusion we should like to emphasize the following:

- Teaching of science will be done in a more "contextual" way, drawing attention to the problems solved by science, in contrast to the axiomatic trends of thought which have prevailed since the beginning of the century, reaching a climax in the 1950s. This supposes that more attention will be paid to the history of science.
- Teaching will include elements of "science ethics" and "technology assessment" calling into play a system of values and a normative approach, in contrast to the positivism that has prevailed so far.
- It will explore border areas where fields with different axioms and methodologies meet. This will amplify the trends towards the integration of the sciences, which has important consequences for teaching and teacher-training.
- The system of interdisciplinary work-teams and modular education will develop further.

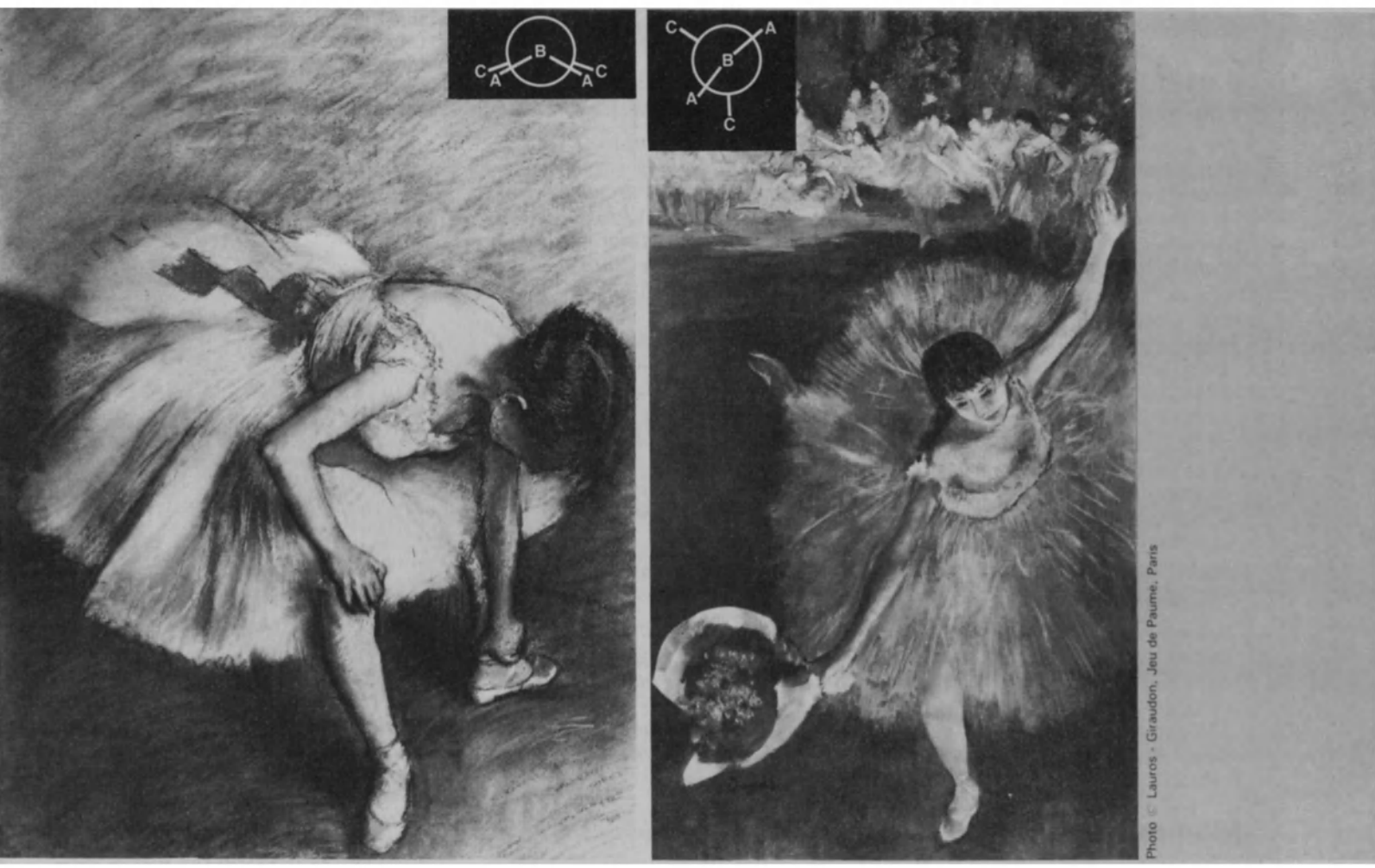


Photo © Lauros - Giraudon, Jeu de Paume, Paris

- Computer modelling will have a strong influence on science teaching; it will be practised in all scientific disciplines and will result in a spread of numeric calculus and simulated experiences.
- Computers and telematics will shift the emphasis from data, information and memory to process modelling, algorithms and operations.
- Scientific organization will thrive, based on decision, systems and games theories and on organization techniques.
- As the immediate future will be dominated by intense research into new energy sources and less energy-consuming technologies, the curriculum will reflect this preoccupation.

■ Mircea Malitza

ASIA
Unesco-assisted projects

BHUTAN: Teacher Training Institute and the National Institute of Education

The kingdom of Bhutan is a mountainous country of 1.3 million people bordered by China and India. Over 80 % of the population are illiterate. In 1981 only half the 1,212 teaching posts were filled by nationals. With the support of the Project, the country's Teacher Training Institute at Samchi (set up in 1968) had trained 210 teachers by the end of 1982 and another 40-50 were finishing training annually. A language laboratory, science laboratories and a printing press have been established. As part of a second project which will run until 1986, the Samchi Institute is being upgraded into a National Institute of Education which will provide training for secondary school as well as primary school teachers. In addition, 3 regional teacher centres will be created.

PEOPLE'S REPUBLIC OF CHINA: Strengthening of Education System for National Minorities (1982-1984).

The Government of China is aiming to strengthen and improve the education of the country's 55 national minorities, totalling about 60 million people. The objectives of the project are to provide cadres of experienced lecturers (principally in science), to establish models of science education for minorities in the 4 key Institutes of National Minorities in Wuhan, Beijing, Lanzhou and Chengdu, and to improve the content of courses for minority teachers and students. The focal point of the project is the South-Central China Institute for National Minorities at Wuhan, Hubei Province, where the physics and chemistry faculties are being strengthened and where it is hoped that total enrolment will reach 3,000 in 1985 and 5,000 in 1990. Fourteen lecturers will receive further training, and courses in physics, chemistry, mathematics, humanities and social sciences will be improved. The remaining 6 Institutes for National Minorities (Yunan, Guanaxi, Guangdong, Qinhai, Guizhou and Tibet Institutes) will send staff members to the 4 Institutes mentioned above to learn from the lecturers who have benefited from the project.

INDONESIA: Improvement of Science and Mathematics Teaching in the Secondary General Schools

A secondary school teacher training programme has in its first 4 years trained 152 science and mathematics instructors through Unesco fellowships. These instructors, along with national and Unesco short-term consultants, trained a further 430 assistant instructors as well as 4,375 science and mathematics teachers. During 1983-1984 some 800 key science teachers and 200 maths teachers will be trained, and they in turn will train 11,340 science and 3,000 maths teachers.

REPUBLIC OF MALDIVES: Strengthening of the Educational System

By the end of 1982, 16 Atolls had been provided with an educational centre for formal modern primary education and non-formal community education. The project has also provided for the training of teachers for English and Dhivehi medium schools, the production of schoolbooks, and the broadcasting of programmes on the English language, environmental studies, community development and adult education.

NEPAL: Education for Rural Development, Seti Zone

The goals of this pilot project in one of Nepal's most remote areas are to train a new type of teacher with development skills, to prepare a new action-oriented functional educational curriculum, to assist local communities in building a new type of school, and to promote literacy. After 15 months' operation the project had developed a new action-oriented, functional adult education programme now being implemented in 20 centres, trained more than 100 teachers, begun construction of 10 improved primary schools, built latrines and planted more than 1,000 trees in school compounds, prepared reading materials for primary school children, and produced and distributed wall newspapers.

'DEMOCRACY is destined to last long in India,'' exclaimed a Delhi-based foreign educationalist-turned-journalist after watching the performance of prize-winning Youth Parliament competition students from a higher secondary school take part in a contest recently organized in New Delhi.

If democracy is to be a complete success as a participatory system, democratic principles and norms must permeate into every walk of a nation's life. To ensure this, all sections of society, especially young people, must be adequately acquainted with the functioning of the Parliament and other legislative bodies.

With this as their prime objective, the Central Department of Parliamentary Affairs and the education directorate of the Delhi Administration co-sponsored in 1966-67 a unique scheme whereby annual Youth Parliament Competitions would be held among the students of sixteen higher secondary schools for boys and girls in the Union Territory of Delhi. The scheme had its origin in one of the

recommendations adopted by the All-India Whips' Conference held in Bombay in 1962. The Conference desired that the Government ''should encourage the holding of youth (mock) Parliaments in educational institutions and through *Panchayats* (village councils) in the rural areas.'' This recommendation was reiterated by all the successive All India Whips' Conferences. The seventh All India Whips' Conference held at Madras in 1969 recommended that in view of the success of the Youth Parliament Scheme in Delhi schools, the wide appreciation it had received from leading Parliamen-

AMAR NATH RAI *is an Indian journalist currently working with the Government of India Press Information Bureau. He has published two books and over 200 of his articles on a wide range of subjects have appeared in Indian newspapers and periodicals.*

Sowing the seeds of democracy

India's youth parliament competition

by Amar Nath Rai

tarians, the press and educationalists, all the States and Union Territories should take steps to implement the scheme with a view to building future Parliamentarians.

The scheme aims at strengthening the roots of democracy by inculcating the spirit of discipline, decorum and tolerance for the views of opponents so necessary in a democratic society, forming character, and acquainting the younger generation with the practices and procedures of the Parliament of the country so that they grow into well-informed citizens and, above all, well disciplined parliamentarians of tomorrow.

The working of Youth Parliaments broadly follows the pattern of working of the Lok Sabha (House of Commons). The students selected to participate in the Youth Parliament competition and the teachers in charge of this activity acquaint themselves with the functioning of the Parliament by witnessing its proceedings during a Session and learning about the arrangements made for the members. The layout of a school Youth Parliament is arranged to resemble as closely as possible that of the chamber of the Lok Sabha. Though no particular subjects have been prescribed, it is desirable that matters raised in the Youth Parliament relate to areas of general concern such as social justice and reforms, economic development, communal harmony, the cultural heritage, national integration, student discipline, international understanding, human rights and peace.

Officers of the Department of Parliamentary Affairs visit each participating school and witness the Youth Parliament Competition, offering on-the-spot guidance and suggestions. They also maintain contact with the zonal education officers, other education officials and members of Parliament, who constitute a panel of judges who select the prize-winners. The Department of Parliamentary Affairs awards four prizes to the best four students, and the school also awards prizes to meritorious students. When assessing performance, the committee of judges keeps the following points in mind: discipline and decorum (10 marks), observance of Parliamentary procedures (20 marks), selection of subjects for questions, for supplementaries and quality of answers thereto (20 marks), selection of subjects for debate (10 marks), delivery or quality of speeches delivered, standard of debates (30 marks) and general assessment of the performance as a whole (10 marks).

The Youth Parliament Competition scheme has made remarkable progress. Within sixteen years of its inauguration over 700 schools have participated and about 3,500 students have received prizes and certificates for excellence. A notable feature of the prize-winning pattern is that the number of girl students winning awards has been proportionately higher than that of boys.

The scheme has become very popular not only in the Union Territory of Delhi but further afield. The States of Haryana, Punjab, Uttar Pradesh, Union Territories (Chandigarh and Arunachal Pradesh) have started organizing the competition while other States have agreed to implement the scheme soon. There is also a proposal under active consideration by the Central Government to introduce the Youth Parliament Competition scheme into the training programmes of the Central Board for Workers' Education.

The Department of Parliamentary Affairs provides the States with the necessary training and encouragement when introducing the scheme, conducts orientation courses for the competition organizers, and offers financial assistance. To popularize the scheme among students and the general public, the Department of Parliamentary Affairs, the Government of India and the Film Division of the Union Information and Broadcasting Ministry have jointly produced a colour documentary on the Youth Parliament which should soon be released for exhibition throughout the country and even abroad.

Though the results of the scheme have not yet been rigorously evaluated, its impact among young people can be measured by its growing popularity. Legislators, journalists and educators who have seen the contests take place have been highly impressed and believe that a nation-building activity of this kind can transform the social and political Parliamentary institutions of the country. ■

Photos © A.N. Rai, New Delhi Central Information Service, India

The Minister of Works and Housing (left) answers a tricky question from the opposition front bench (right). The "parliamentarians" in our photos, pupils of a higher secondary school in India, are taking part in the Youth Parliament Competition, an imaginative scheme aimed at familiarizing the younger generation with parliamentary practices and procedures and inculcating the spirit of democratic debate. Over 700 schools have taken part in the competition since its inauguration 16 years ago and some 3,500 students have received prizes and certificates of excellence, with a proportionately higher number of girls than boys winning awards.

Can creativity be taught?

Aesthetic education in Bulgaria

by Krestu Goranov

IN Bulgaria today great importance is attached to creativity in all fields, and consequently aesthetic education is considered to make an essential contribution to shaping the individual both as a personality and as a member of the community. By rounding off intellectual, moral, physical and working education, it provides fulfilment for the creative instinct by harmonizing the intellect with the sensibility.

This long-established Bulgarian tradition became stronger when the country was liberated from the Ottoman yoke in 1878.

First of all it found expression in the cultural triangle of "school, church and cultural centre", the latter being popular institutions which sponsored libraries and a wide variety of cultural activities and which still play a major role in national life.

Later, the artistic ideas and tastes of democrat-revolutionaries such as Khristo Botev, Vasil Levski, Lyuben Karavelov and of the Socialist Workers Movement further strengthened the secular and democratic evolution of the school and the role it accords to aesthetic education.

The aim of aesthetic education is to form taste, that is the capacity to invent, understand, appreciate, conserve, experience and create beauty in daily life and in the arts. It also tends to stimulate the creative gifts and to encourage a desire to change life in accordance with an aesthetic ideal which is indissociable from a social ideal. In conformity with the dialectical relationship between these ideals, a national programme of aesthetic education was established in Bulgaria in 1975. The school plays a major role in the programme, which also calls for active participation by artists and their unions, public organizations and representatives of the different age groups. On the initiative of the late Ludmila Zhivkova, a noted figure in Bulgarian political and cultural life, youth cultural movements were founded, notably the "Banner of Peace" movement which enjoys international prestige (see *Unesco Courier*, May 1981) and movements which popularize the life and work of great figures in the arts and sciences, such as Leonardo da Vinci and Einstein.

Photo Dimitr Boginov © BTA, Sofia

Members of the children's theatre studio attached to the Varna Drama Theatre (Bulgaria) in a scene from *The Moon's Bedroom*, a play by Valeri Petrov with music by Tchaikovski.

The school is the centre of the national aesthetic education programme, which should begin at pre-school age. Much attention is focussed on children's games, and efforts are being made to enrich them with musical and artistic elements. Considerable success has been achieved, notably in musical education. Literature, the fine arts and music are taught in secondary schools from age eleven until the end of the course, along with the theory and history of art.

But other subjects can also make a contribution to aesthetic education. After all there is no reason why an aesthetic meaning should not be given to work, to social activity and to human relations in general. Efforts are also made to complete pupils' aesthetic education by encouraging them to take part in rewarding out-of-school activities such as art circles and amateur dramatics, choirs, orchestras and dancing. They are urged to visit exhibitions and museums, and to attend theatres and concerts.

These out-of-school activities take place in cultural centres, and centres of

KRESTU GORANOV, *of Bulgaria, is professor of aesthetics, the sociology of the arts and the theory of culture at the University of Sofia, at the Bulgarian Academy of Sciences and at Bulgaria's Higher Institute of Fine Arts. He is the author of many published works, notably* Art as a Process, Arts and Social Life, Artistic Culture in a Changing World, *and* Principles of Aesthetics.

aesthetic education belonging to pioneer and youth organizations. New conditions—the building of socialism, urbanization and the development of new communications media—permit a wider application of an advanced teaching practice whereby young people teach themselves. According to the same method, teaching is tailored to different interests and gifts, and the children may attend special optional classes in literature, drama or cinema, painting or dance studios, or else learn to play a musical instrument.

In harmony with the national aesthetic education programme, Bulgarian schools thus try to serve a great democratic principle by giving everyone the opportunity to fully develop his aesthetic sensibility and to use his gifts. The school discovers the most gifted representatives of the rising generation and provides their earliest artistic training. Not all the young people who learn the rudiments of painting will become painters, but those who really possess gifts in this field should be able to express them. The others will be able to direct the impulse awakened in them to other activities, in their work and in their human relationships; and as a result people's lives will be more satisfying and more equitable. ■

The Bulgarian painter Dechko Uzunov at work amidst a group of budding artists.

Photo Stefan Tuxov © BTA, Sofia

A group of Bulgarian children perform a traditional dance.

Photo Zhivko Angelov © BTA, Sofia

LATIN AMERICA and the CARIBBEAN Unesco-assisted projects

BRAZIL: Technology Applied to Special Education

The project is conceived within the framework of Brazil's policy to improve the education of handicapped persons. It focuses on two main activities: (1) the establishment of services for the early detection and treatment of hearing-impaired children through the provision of diagnostic technical equipment and the training of specialists; (2) the installation of Braille printing equipment at the Benjamin Constant Institute for the Blind in Rio de Janeiro to provide textbooks and other reading material for the blind.

THE EASTERN CARIBBEAN: Development of Vocational Education

The project, which concerns Antigua and Barbuda, the British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts-Nevis, St. Lucia, St. Vincent and the Grenadines, becomes operational this year. It aims to improve educational training systems, especially at secondary level, and to provide training in industrial arts such as woodwork, metalwork and electricity so as to prepare students in the 12-15 age group for apprenticeship programmes or entrance into technical colleges.

DOMINICAN REPUBLIC: Planning and Renewal of the Education System

The overall objective is to contribute to the renewal of the national educational system. Among the main activities are drawing up a reorganization project for the Secretariat of State for Education, Fine Arts and Religious Practices, especially its 160 regional branches, and the production of a handbook on organization and methods.

ECUADOR: Training of educational Personnel

Since 1979, Unesco has been helping a team of Ecuadorian specialists commissioned by the Ministry of Education to organize a national training and in-service training system for educational personnel. Among the objectives are the creation of a vast correspondence course network for practicing teachers, the strengthening of the National Teacher Training Institute, and experimentation with new training and in-service training methods, notably in basic in- and out-of-school education in rural areas and in the integration of technical education into general studies. The programme is scheduled to end in December 1984.

NICARAGUA: Basic Education in Rural Areas

The central idea of the project, conceived within the framework of the national educational reform, is to associate teachers and the community at large in the management and development of education. Accordingly a network of in-school and out-of-school educational services has been created to remedy the isolation of rural schools. Experimentation with new methods has been encouraged notably through the creation of 21 "Educational nuclei" and through a continuing effort to provide their cadres with in-service training.

PERU: A National Multi-sectoral Literacy Plan

Since 1982 the project has been contributing to the training of specialists in audiovisual literacy teaching techniques. It is also helping to produce video and radio material for use in literacy work, including bilingual literacy teaching (Quechua-Spanish, Aymara-Spanish), and in basic integrated education (reading, writing, mathematics, and community development).

THE supply and demand of education for women would seem to be inseparable from the position occupied by women in each different society. Consequently, the education of women calls to mind a double mirror which simultaneously reflects both general educational trends and the status of women.

A straightforward analysis of the figures relating to the education of girls and women reveals that a smaller proportion of them are enrolled in school than boys, that their schooling is often disturbed, that there are disparities in their distribution among the different types of education, and that their education is turned to little account in working life. The underlying causes of these trends are to be sought outside the classroom.

As long as education to a given level is not fully extended in practice to all the members of the age group concerned, the proportion of girls enrolled is smaller than that of boys. In the developing countries in 1980, girls constituted 43 per cent of the pupils enrolled in primary education as against 49 per cent in the industrially developed world. The overall increase in numbers of girl pupils (which is spectacular in the developing countries) does not mean that there is equality of opportunity between the two sexes. It simply reflects a position in which girls were poorly represented in education at the outset, and sheds light on the development of education in general.

In many cases girls' school careers are characterized by absenteeism, grade repetition and early leaving. And the difference in the illiteracy rates between the two sexes is a good indicator of a form of discrimination which does not disappear when the level of development of schooling rises. In this connexion a Unesco study presents data which show significantly that these disparities are more strongly marked in the south European countries than in most developing countries.

MARIA ELIOU, *of Greece, is professor of comparative education at the University of Jannina (Greece). She is also a member of the Administrative Council of Unesco's International Fund for the Promotion of Culture and of the Executive Committee of the European Association of Development Research and Training Institutes. President of the Greek League for Women's Rights, she is the author of a number of books and articles on educational questions.*

Towards equality for women in education

by Maria Eliou

The distribution of female pupils among the various types of secondary education reveals disparities which are concealed by the global figures. Whereas girls are more or less well represented in general education, they are generally under-represented in technical and professional education, except for training leading to the service industries.

It is quite clear that this trend is influenced by the "sexist" image of different kinds of training and the professions to which they lead. The labels of "men's" or "women's" jobs can be seen in the background of choices which may seem free in the sense that they are not dictated by formal rules whereas in practice freedom of choice is virtually non-existent.

In higher education women are still in a small minority in fields of training which offer the best pro- ▶

"As long as collective mentalities support the traditional division of roles, the evolution of women's education will continue to mask the persistence of their traditional status".

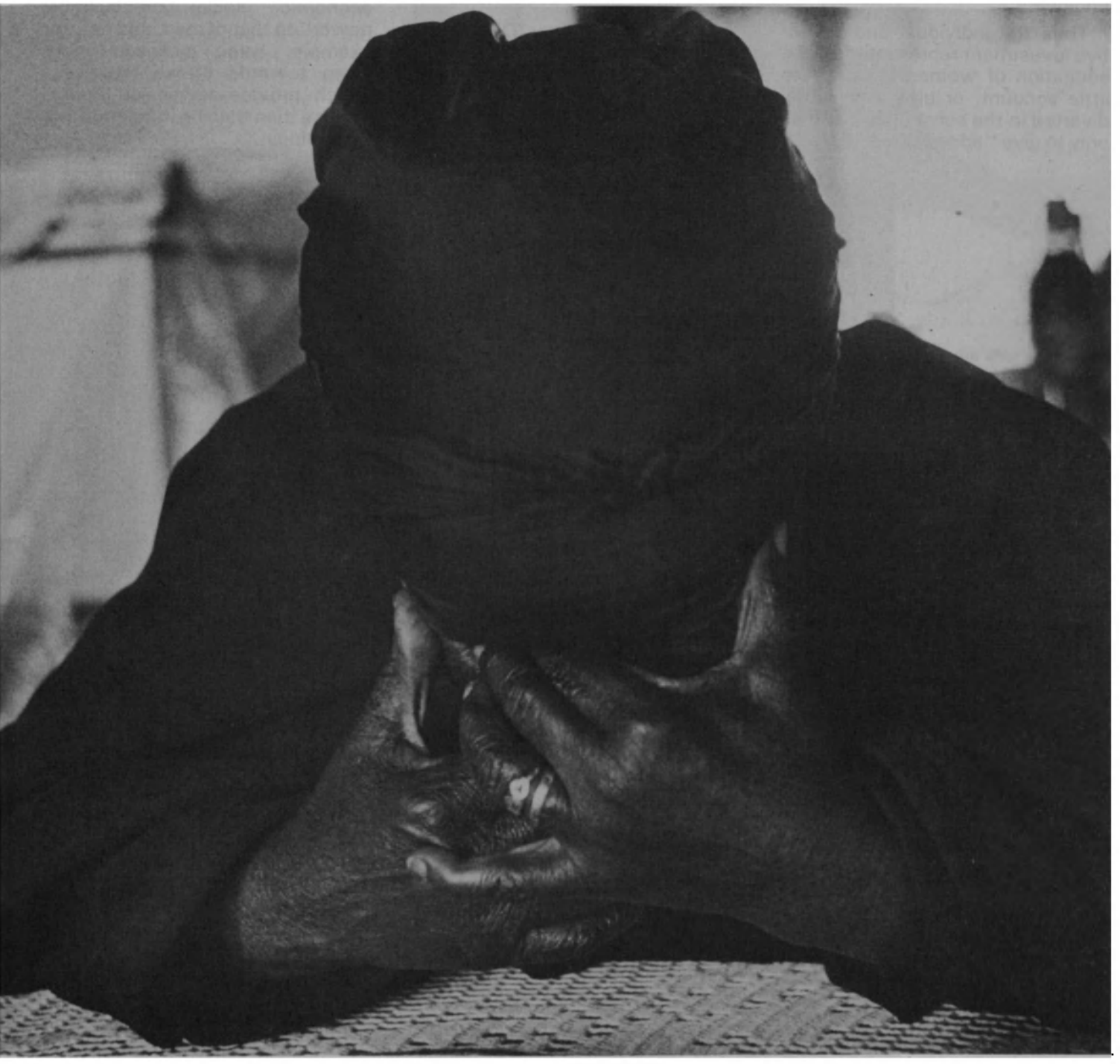


Photo © Nancy Durrell-McKenna, London

▶ fessional prospects. It may be instructive to compare the data in Unesco's *Statistical Yearbook* (1982 edition) for the enrolment rates of male and female students in two fields of study: literature, religion and theology on the one hand, and engineering sciences on the other. In the fifty-seven countries for which the data exist, whatever their level of economic and educational development, whatever the rate of participation of young women in higher education, whatever the school system or the socio-economic system, the same trends recur: with few exceptions women tend far more often to study literature than men, but above all far fewer of them *without any exception* are enrolled in institutions which train engineers.

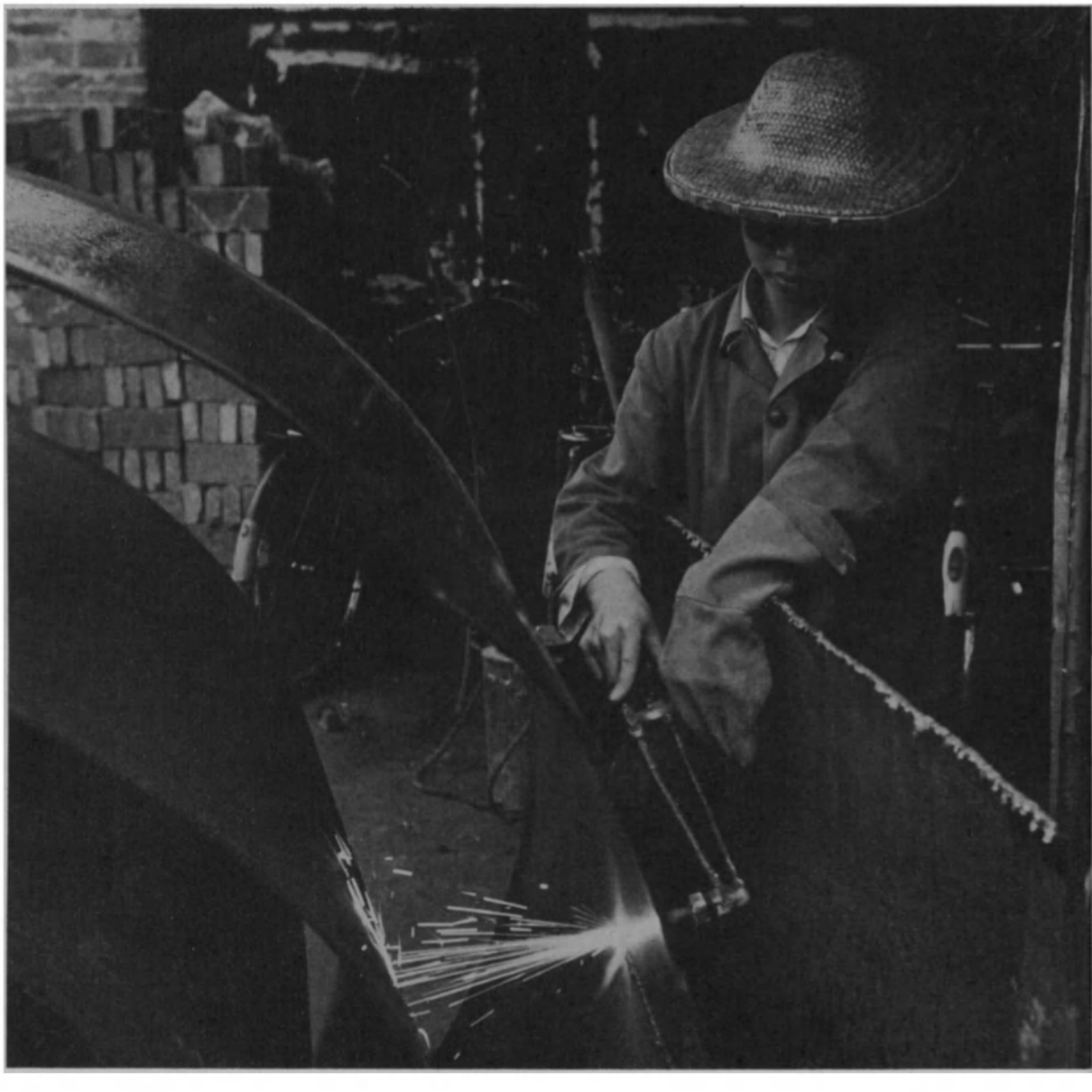
Thus the individual and collective investment represented by the education of women is turned to little account, or else it is subtly diverted in the sense that it serves only to give "added value" to what is expected of women as mothers and housekeepers.

In other words the education of women bristles with ambiguities. There is a blatant contradiction between avowed egalitarian aims and actual practices, the latter of which stem from the differentiated roles, implicitly arranged in a hierarchy, of men and women. As long as collective mentalities support this traditional division of roles, the evolution of women's education will continue to mask the persistence of their traditional status.

However, in the last few years there has been a growing awareness of these mechanisms, giving rise to a different conception of education for women and of educational policy in this field.

The United Nations Decade for Women, especially such events as the World Conferences of Women in Mexico City (1975) and Copenhagen (1980), has given a strong impetus to this movement, and today the different international organizations are tackling the complex question of women's status in an open-minded, forward-looking spirit.

The major programme on the status of women in Unesco's Medium-Term Plan (1984-1989) is particularly relevant here. The goal it seeks is no longer equality of access (to education or employment) but "equal opportunities and responsibilities in access to resources as well as in decision-making"; it is stressed that this issue is "basically a political problem and that it is related to the balance of power". For women the implications of this position would include "taking advantage of the education that they have received in order to gain equivalent economic, social or political power" to that of men, and not, for example, being inclined "more often towards literary studies... which provide fewer job opportunities than training in science and technology."



"Whereas girls are more or less well represented in general education, they are generally underrepresented in technical and professional education ... This trend is influenced by the 'sexist' image of different kinds of training and the professions to which they lead." Right, woman welder at work at Foshan, a town north of Guang-Zhou (Canton), Guang-Dong (Kwantung) Province, China.

Photo Hersant © Fotogram, Paris

In 1980 the question of the educational and vocational guidance of women—one in which many countries have shown a strong interest in recent years—was examined in a number of Unesco studies and then considered in international meetings such as the international congress on the situation of women in technical and vocational education (Bonn), the international seminar on opening up to women of vocational training and jobs traditionally occupied by men (Frankfurt) and the international seminar on women's education, training and employment in developed countries (Tokyo).

This development has come about through the support at world level of a women's movement which has emerged from the overall thrust of feminist forms of expression and from trends which are as yet still vague and unformulated.

The women's movement cuts across not only countries and régimes, social classes and parties, but other social movements as well. Essentially subversive, since it tends towards the overthrow of the existing male-dominated order, it is fundamentally creative in the sense that it proposes to join with other movements in a creative quest for the development of tomorrow's societies.

In many countries the movement has led to a spectacular upsurge in women's studies (see the *Unesco Courier*, July 1980, pages 28-34). The status of women is no longer a phenomenon hidden from view or explored only by courageous pioneers, it is a subject which is now being studied in countries as diverse as the United States, Argentina, Canada, India and Tunisia. International meetings on research and teaching with regard to women (especially the meeting of experts held by Unesco in Paris in May 1980; the meeting of Arab women researchers, also organized by Unesco and held in Tunis in April 1982; the international symposium organized by the Simone de Beauvoir Institute of Concordia University, Montreal, July-August 1982) have taken stock of these activities and drawn conclusions with a view to more effective action in the future.

Interest is also growing in the field of non-formal education, which is particularly suitable for innovation. Many activities directed towards the education and promotion of women are being encouraged by international organizations like Unesco, the Council of Europe, the International Council for Adult Education, and by small, dynamic teams of enthusiasts.

Photo © Léon Herschtritt, Paris

"The individual and collective investment represented by the education of women is turned to little account, or else it is subtly diverted in the sense that it serves only to give 'added value' to what is expected of women as mothers and housekeepers".

Unesco has three experimental projects in this area: in Upper Volta (education of women in a rural environment); in Nepal (training teachers for rural primary schools); and in Chile (on the access of women to technical secondary education with a view to their preparation for technical careers).

Not that the schools have been neglected. The realization that collective mentalities have an impact on the education of women has also led to appropriate action concerning the organization and content of school programmes.

The Greek educational system is now totally co-educational. In the Netherlands a large number of specific measures have been taken on the principle that "education should not encourage the determination of respective roles but should on the contrary create the conditions for maximum fulfilment irrespective of sex". Action against the inculcation in and by the school system of stereotypes concerning the roles of men and women has also been taken in Norway, the Federal Republic of Germany, Denmark and Ireland.

The crowds of girls who throng at the school gates, their older sisters who intend to pursue their education as far as possible and to reap the fullest benefits from it, the many adult women without qualifications who are calling for a training which is their due—all expect to be treated by society and the educational system as members of society whose horizons will never again be delimited by the walls of the family home.

■ **Maria Eliou**

Islam's Qur'anic schools

by Abdul Aziz El Koussy

THE main objective of the Qur'anic school is to teach its students to know by heart the Qur'an, the sacred book of the Muslims whose religion is Islam and who wholeheartedly believe that the Qur'an is the true word of God.

The population of the Muslim world is currently estimated to be over 600 million people distributed largely in Africa and Asia and also in smaller groups in other parts of the world. For Muslims the Qu'ran is the Divine Revelation which the Prophet Muhammad was bidden to declare and to teach to all human beings all over the world at all times, in order to guide them to the right path in this and the other world.

Muhammad appeared among the Arab people with his message in the year 610 AD. Arab society was then made up of a number of tribes, each of which had its own deity which was usually represented by an idol. The result was the prevalence of idol worship, and a multiplicity of Gods. Islam came to establish uncompromising monotheism and to do away with the chaos, to purify human society, and to bring to it balance, order, security and peace. The Prophet was the first teacher, and the Qur'an was the only book for the new believers. There was an urgent and basic need for education and instruction.

In the very early days of Islam the first teaching place was the house in Mecca of Al-Arqam, one of the Prophet's companions, and many of the early believers received instruction privately in a house. People would transform parts of their homes for this purpose. When the Prophet migrated with his companions to Medina he built the mosque which still bears his name, and it was used both as a place of worship and for instructing his companions and followers. The message had to be accurate to the letter, and in order to be transmitted to others it had to be learned by heart. The believers sat in a circle (*Halaka*) around the teacher, and learned by listening, by repeating and by trying to understand. For women believers, the wives of the Prophet and their companions played a very important role. Teaching and learning acquired so high a reputation during the lifetime of the Prophet that the teaching of reading and writing was accepted from a non-Muslim as ransom for his liberation from captivity.

ABDUL AZIZ HAMID EL KOUSSY, *of Egypt, is emeritus professor of psychology at Ain Shams University, Cairo. A member of Egypt's National Specialized Council for Education, Science and Technology, he was the founder-director of Unesco's Regional Centre for Educational Planning in the Arab States (1961-1971). His publications include* The Visual Perception of Space *and* Fundamentals of Psychology.

Photo David Burnett - Contact, Paris

A blind sheikh teaching children the Qur'an in an Egyptian village.

As time passed and the numbers of believers in Africa, Asia and other parts of the world multiplied, Islamic schools of various types were created. They had different names, but all had the same objective. In Egypt the *Kuttab*, which is neither held in nor attached to a mosque, teaches reading, writing, arithmetic, religion and, most important of all, the memorization of the Qur'an. The *Khalwa* in the Sudan is a small room attached to a mosque and is mainly used for mystic meditation and as a place where students are helped to memorize the Qur'an. Other Islamic schools include the *Zawia* in Libya, the *Dox* in Somalia, the Yemeni *Milama,* and the *Msid* school in Morocco, as well as the various levels of *Madrasahs* and *Maktabs*. Qur'anic schools reached their highest point in the Middle Ages, when there was at least one in every village in the Muslim world.

In Egypt the University of Al Azhar, with its various colleges and branches, stands at the apex of a vast structure of institutions including institutes of Qur'anic elocution, large numbers of primary and secondary schools, and 6,000 specialized Qur'anic schools. The University receives male and female students from all over the Muslim world and offers a wide range of courses in religious, linguistic, medical, engineering and other subjects. Other universities were founded in Damascus, Tunis, Fez and other great cities over a thousand years ago, but Al Azhar has won the most recognition and is still developing.

Backed by the force of faith, the schools multiplied, flourished, developed and received financial and moral support from the people. To give a donation or help build a school was considered an act of piety. The fact that the people have supported this Qur'anic educational movement spontaneously and uninterruptedly for almost fourteen centuries all over the vast Muslim world is a firm indication of the genuine deep-rootedness of the faith behind it.

The Qur'anic school usually has a single room; the number of students varies from ten or twenty to some hundreds. A typical scene during the school day may be described as follows. The teacher is squatting on a high platform, orchestrating and vigilantly watching the whole scene. Some students are copying verses from the Holy Book on to a slate while others revise their assignment before being tested by the teacher, or Sheikh. Some are being tested and prompted by monitors, boys older than themselves, before taking the final test. A group of five or six children in a corner are reading chapters in a chorus with a leading boy. They correct themselves as they go along, and the chorus goes on until they have all learned the passage. The chorus method is very effective since every child is keen not to be out of tune—hence the concentration of attention, self evaluation and self-correction. When a student can recite any part of the Qur'an from memory, he too is given the title of "Sheikh", a big celebration is held by his family, and the teacher is given a valuable present.

Pedagogically a number of practices are questionable, but some others are sound. It is worth noting that before the close of the eighteenth century two British educators, Andrew Bell and Joseph Lancaster, independently of each other, adopted the monitor method from Indian Qur'anic schools. During the expansion of schools in England at that time very large numbers of students were taught using this method by a very small number of teachers. The monitor system is also known in France, probably as a result of the country's long contact with North Africa. This practice of encouraging the younger pupils to learn from the older and more mature is to be recommended. In Qur'anic schools each student can proceed at his own speed. Some learn the Qur'an in two or three years, while others need six or seven years, and it is understood that some need not learn the whole text.

Until recently, the school day began at sunrise and ended when the sun was halfway between mid-day and sunset. The school day ended when the shadow of a person standing in the sun was equal to his height.

The students mixed their own ink by collecting soot, mixing it with water and oil, and soaking with it a piece of cloth inside the inkpot. Pens were usually made of Persian reed and were sharpened by the students themselves. In some schools students practised handwork using local materials, some helped produce the arts and crafts of the community.

In Egypt a minister heads the whole system of Azharite education, developing its primary, secondary and higher levels. Between Azharite and modern, formal education there is a gap which is wide at the lower levels, narrow at the university level. Sometimes minor tensions arise. In the Sudan a *Khalwa* stu- ▶

Right, the 14th-century *madrasah* (school) of Bu Inaniya, at Fez, Morocco. During the first centuries of the Hijra the *madrasah* was the university of the Islamic world. The curriculum was based on the Qur'an and the *Hadith* (sayings of the Prophet), but grammar, literature, mathematics and sometimes medicine were also taught. Below, detail from a 15th-century miniature now in the Topkapi Museum, Istanbul. It is an illustration for *Layla and Majnun*, a famous romantic poem by the 12th-century Persian poet Nizami, and shows Majnun, the hero of the poem, at school.

Photos Roland Michaud © Rapho, Paris

▶ dent can sit for an examination at the fourth grade level and if he passes can attend a complementary school before entering normal formal schooling. In Tunisia Qur'anic schools were incorporated into modern formal schooling immediately after independence in 1956. It is known that the *ulemas* or teachers in the religious schools resisted French colonization.

In Indonesia the Ministry of Religion was responsible for some 19,000 schools with about three million pupils in 1979, at a time when the country's total number of primary level pupils stood at twenty-two million. Indonesia and Niger are countries where there is no discrimination whatever between the Qur'anic school student and the formal education student. But uniting the various trends and policies regarding Qur'anic schools there is an overriding attitude of respect, and even reverence.

However, difficult problems have arisen, particularly in Africa and South-east Asia. For one thing modern education with a European pattern has inundated the Muslim world and has had a strong polarizing effect on resources. Modern formal education gets practically the whole of the State educational budget while the Qur'anic school still depends on private donations and impoverished trusts. Qur'anic schools in some countries occupy small, overcrowded rooms with poor and primitive equipment. People support the Qur'anic, the Government supports the formal school.

In some countries two or more streams of education exist, separated by an unbridgable gap. This creates inequality of opportunities and influences currents of thought and prospects.

Difficulties also arise concerning the meaning and understanding of the texts beacause of the difference between modern Arabic and the seventh-century-AD Arabic in which the Qur'an was written.

But the most important problem of all is the tension in some Muslim countries today between three types of language: the official language, which is either French or English; the vernacular, which is the mother tongue of everyday living; and the Arabic language of Islam and the Qur'an. To be torn between three very important options, one dear to the student's creed, one for daily life, and one for official use, creates a problem which is difficult to overcome.

■ **Abdul Aziz El Koussy**

Ghana's university of science and technology

by Frank Obed Kwami

WHEN the University of Science and Technology (UST) at Kumasi, Ghana, was established in 1961, the Act of Incorporation specified that the objectives the University should follow in its academic pursuits should be of relevance to the needs and aspirations of Ghanaians. This apparently axiomatic statement reflects a very real difficulty which faced many establishments of higher education in countries emerging from the colonial past and which the history of the UST illustrates.

The UST is the successor to the Kumasi College of Technology which was founded in 1952 and which was recognized by London University, in the United Kingdom, as a college providing training in engineering leading to the London University B.Sc. degree. Even after Ghana achieved independence (in 1957) and after the newly established UST was in a position to award its own degrees, examinations were conducted by external examiners from the U.K. to ensure standards equivalent to those of British universities on which formal recognition of the UST engineering degree by British professional institutions depended.

It was soon clear that as long as this arrangement continued the necessary flexibility in the adaptation of curricula and syllabuses to reflect national development needs could not exist. Furthermore, while the majority of the teaching staff and heads of departments were expatriates, there persisted a residual feeling that a shifting of educational objectives to reflect these needs was synonymous with falling standards.

In 1969, the University Council set up a Committee to evaluate the University's past record and to identify areas in which the University could make significant future contributions to the economic, industrial and social development and advancement of the country. One of the recommendations made by the Committee was the establishment of a technology Consultancy Centre, a novel form of University institution for technology transfer, whose mission is to collaborate with all departments of the University, to keep the outside community informed of their resources and expertise and to help them to develop technologies of use to the nation as a whole. In addition, the Centre receives requests for advice on problems from the outside community which it channels back to the department of the University concerned.

During 1972 and 1973, the Faculty of Engineering initiated a thorough review of its curricula and methods so as to make them more relevant to the country's development needs. Students follow a four-year degree programme. During their second semester students receive practical training in the Faculty's workshops and laboratories where they are introduced to mechanical and electrical workshop practice, production activities, civil engineering construction work and field work in surveying. During vacations they attend training courses at carefully selected industrial enterprises under close supervision of the teaching staff. Field trips to industrial organizations and engineering sites are organized regularly for each class.

A striking innovation is the setting up of production units within the departments of the Faculty. These are virtually mini-enterprises in which products developed in the departments are produced on a semi-commercial basis. The units provide students with training in such fields as work study, production control and management and familiarize them with all the processes of engineering manufacturing from production to the marketing stage.

The final year of the degree course is devoted to work on major projects which are carefully screened by a panel of teachers according to criteria which take into account their local relevance and engineering content.

In making this review and adaptation of its curricula and methods the prime objective of the Faculty of Engineering was to match its education and training programmes to the needs of national development without loss of academic standards. In 1983, with established Departments in civil, mechanical, electrical and electronic, geodetic and chemical engineering, with a student body of over 800, and a seventy-strong teaching and research staff 90 per cent of whom are Ghanaian, the Faculty believes that it has successfully achieved this goal. ■

FRANK OBED KWAMI, of Ghana, is head of the mechanical engineering department, dean of the faculty of engineering, and acting vice-chancellor of the University of Science and Technology, Kumasi, Ghana. He has undertaken a number of missions for the Government of Ghana, for Unesco and other U.N. agencies.

A model school for blind children

The school for the blind at Bargur, a small town in southern India.

Parents are encouraged to visit the school as often as possible. Arna, who suffers from other handicaps in addition to his blindness, requires special attention, and his mother, who lives nearby, comes to school almost every afternoon to play with him.

At the Bargur school, boys as well as girls are taught to mend clothes and sew on buttons and, if they wish, can go on to learn fine needlework.

Photos Unesco, from one of a series of slide and script presentations giving examples of good practice in the education of handicapped children, produced by Unesco's Special Education Unit, Paris

TEN years ago, in the little town of Bargur in south India, a school for blind children opened its doors. Life is hard in this part of India, the majority of people are very poor, and for most of them life is a struggle for survival. There is no industry, farm land is scarce, and the crops are very often destroyed by droughts or floods. These conditions result in poverty, disease and malnutrition.

There is a very high incidence of blindness in this part of India, especially among children. The parents of such children are helpless, and blindness constitutes an additional burden on the family. Assistance and advice are not available—on the contrary, blindness meets with superstition, prejudice and fear.

Perhaps the same situation would still exist today had it not been for a lady whose vision and determination brought some drastic changes. Near her home she often saw parents taking their blind children to the local temple in order to seek miracle cures. One day, while visiting the temple, she suddenly became convinced that she should initiate some kind of assistance for these unfortunate people.

She happened to meet a representative of an international organization, *Christophel Blindenmission*, based in the Federal Republic of Germany, and asked him for support.

After a long series of talks and negotiations, in which she encouraged and stimulated other people in the community, plans were finalized for the establishment of a blind school, in close collaboration with the international agency. However, those responsible were determined not to create a conservative type of school. Academic knowledge alone would not be sufficient to equip blind children to cope with adversity; they would have to learn many other skills to be able to stand on their own feet.

Consequently, the leaders of the project decided to make Bargur a "school for life", and the normal curriculum for blind children was enlarged and enriched by a great variety of useful and practical projects.

From the day of admission onwards, every student is helped to become independent. Naturally the three Rs are not neglected, so that the child learns to read and write in Braille and do basic arithmetic. At the same time, a wide variety of daily living skills are taught, including very simple tasks such as dressing, cooking, laundering, ironing, sewing and knitting, but also mobility and orientation and a multitude of pre-vocational skills.

Great efforts are made not to separate the children from their homes. Realizing that their parents are often more in need of help than the children themselves, regular home visits are paid by the school's social worker, and parents are frequently invited to visit the school. During the school holidays, all children must return to their homes, and the school also encourages weekend visits to families and friends who live in the vicinity of the school. The counselling service is extended even to blind people beyond school age and it is planned to organize special handicraft courses for them in the near future.

When the school opened in 1973 there were already forty-two pupils, and by 1979, with the addition of another hostel and two more classrooms, their numbers had risen to almost a hundred.

One of the biggest problems was the recruitment and training of good staff. The Management Committee decided against sending any of the teachers abroad and instead initiated an in-service teacher-training programme at the school. For this purpose an experienced German teacher of the blind was invited and under her guidance almost twenty teachers were helped to become familiar with appropriate modern teaching methods.

Residential schools often have disadvantages for children, and the Bargur Committee has seen to it that these will be avoided in their school. Several visitors have commented on the atmosphere of joy and happiness which prevails there, which shows that even in these simple conditions, children can grow up to be happy young adults. ■

ARAB COUNTRIES

Unesco-assisted projects

ALGERIA: Development of the Education and Training System

A number of high-level consultants provide services whenever a need occurs. Several sub-projects are related to a study of human resource needs for education and employment up to the year 2000, educational management and facilities, educational content, teacher training and vocational training.

BAHRAIN: The Centre for Rehabilitation and Integration of the Disabled

The Centre for Rehabilitation and Integration of the Disabled was established in the town of Isa in 1979 with Unesco aid. It can provide education and rehabilitation services for 120 handicapped young people. Great emphasis is placed on programmes for the mentally retarded, education of the deaf and vocational training. The integration of rehabilitated young people into schools, industry and the community is the ultimate aim of the Centre's activities.

LEBANON: Relaunching and Development of Technical Education and Vocational Training

The project is concerned with the relaunching of technical and vocational training which is essential to ensure the quantitative and qualitative development of the necessary manpower to enable the Lebanon's social and economic reconstruction to take place. A 6-year Plan foresaw an increase in enrolments in technical schools from 5,000 to 25,000 and an increase in the teaching force from 1,000 to 5,000. Although the project, which began in 1980, has not been able to achieve all its objectives because of the difficult conditions in the Lebanon since then, there has been no interruption in project activities and remarkably good progress has been made.

OMAN: Towards a Balanced Educational System

The project forms part of the Second Five-Year Plan (1981-1985) which stresses the need to strengthen training activities to provide a greater number of Omani teachers and reduce dependence on expatriate labour. Main results include: reorganization of the Ministry of Education; development of educational planning; linking technical/vocational education to manpower needs; introducing health and nutrition education.

QATAR: The Faculty of Education

The project was originally designed to establish two teacher training colleges (one for men, one for women) but these have subsequently been upgraded to become the Faculty of Education of the University of Qatar. Initially the main objectives were to assist in the training of teachers and administrators at all levels, and in the strengthening of links between educational facilities and the country's social and economic needs. Other aims have since been added, including the procurement of equipment, library development, and the development of training programmes for women.

A great deal of thought is being given these days to the question of the form education should take in tomorrow's world. The great interest this question arouses is doubtless due to the fact that, by its very nature, education is more closely involved with the future than most other fields of human activity. Will the school as we know it today be capable of preparing our children for life in the 21st century in face of the accelerated pace of change and innovation predicted in every field? Should not reform of the educational system designed to meet this new challenge be a priority objective throughout the world? What prospects of evolution are open to educational systems?

Opinions on this matter range from extreme pessimism to excessive and unjustified optimism. There are those who maintain that existing structures are more resistant than is generally supposed and that things will have changed little by the year 2000; others build their hopes on forecasts of technocratic solutions, some of which belong to the realms of pure fantasy; some consider that the educational systems of the different countries will become more and more similar in pattern whereas yet others believe that they will become more firmly rooted in national cultural identities and that, as a result, their objectives, principles, methods and educational content will become more and more differentiated.

The wide disparity between these views as to the future of education becomes more understandable if account is taken of the often radical divergences of opinion there have been in the assessment of the past history of education, including the period of most recent years. For the history of education casts its shadow on the future. It shows that, in most countries of the world, the last two or three decades have been a period of unprecedented expansion. In the developing countries, in which the overwhelming majority of the world's population lives, national

BORIS F. KLUCHNIKOV, *of the USSR, is in charge of the research programmes of the Higher School Institute of the USSR Ministry of Higher and Secondary Technical Education. He is a former director of Unesco's Division of Educational Policy and Planning and before that served as a Unesco consultant. He is the author of a number of works on educational planning and economics.*

Some future prospects

by Boris Kluchnikov

Photo © Photokhronika Tass, Moscow

Potential future grand masters of chess study the end game in a school at Kislovodsk in the Caucasus foothills, near Pyatogorsk, USSR. Chess is becoming part of the regular curriculum for children from the age of 6 in many Soviet schools.

education systems have been established for the first time in their history, and the elimination of illiteracy and the provision of primary education for all have become officially recognized as priority national objectives.

According to Unesco statistics, during the period 1960 to 1980 the number of pupils and students in the developing countries increased 2.4 times at the primary level, 4.6 times at the secondary level and 6.3 times in higher education. At the same time fundamental qualitative changes occurred which brought about what might be described as the "decolonization" of education. Pupils began to be taught in their own languages and to study the history, literature, geography and general nature of their own countries.

In the socialist countries, over a relatively short period of time, secondary education became generally available and in the industrialized countries of the West and in Japan there has also been a rapid expansion in education, especially in higher education of both long and short duration; there has also, however, been a considerable increase in unemployment among young people with specialist qualifications.

The notion of the democratization of education and of equal access and opportunity for all, in the development and application of which Unesco has played a considerable rôle, has spread to most countries of the world. Unesco figures show that, in the hundred countries for which statistics are available, annual expenditure on education increased, in real terms, from $115 thousand million in 1960 to $365 thousand million in 1976, an average increase of from 3.7 per cent to 5.7 per cent of Gross National Product.

At the same time, however, expenditure on armaments reached the even greater figure of $600 thousand million and, in many countries, escalation of the arms race has led to a reduction in social expenditure, in particular on education, culture and scientific research for peaceful purposes.

In many countries there is an ominously growing tendency to push education into the background; there is now an evident lowering of political will to maintain the rapid educational expansion of the 1960s and 1970s. And ▶

▸ the belief is gaining ground that in the Third World education may be a bottomless pit. This is the consequence of the serious problems that have arisen in the educational systems of many countries which are seen to be divorced from life and the real needs of the community, thus contributing to higher unemployment particularly among young people, to be incapable of eliminating illiteracy, and to be ignoring the needs of women and girls, and so on. The rapid emergence of notable differences in the quality of education can be clearly discerned and, in many countries, two distinct forms of education are becoming institutionalized—one for the general public and one for a socially-privileged élite, a high standard of education for the town, a lower quality for the country, with a similar divide appearing between the developed and the developing countries.

Besides, criticism of the objectives of education and the rigidity of its structures is largely justified, as are charges that programmes are out of date and that there are delays in using the fruits of science and technology to improve the efficiency of the educational process. All these obstacles to the positive development of education have given rise to a far-reaching international debate on the crisis through which education is passing.

Nevertheless, a close examination of the difficulties and successes of education today casts serious doubts on the reality of a world crisis in education. In the light of analysis it is possible to affirm that this crisis is not universal in nature and that its manifestations are limited to countries which are going through a period of overall crisis in their development.

But in the others too, the successes of recent decades provide no grounds for unthinking optimism about the future, even excluding the possibility of war or a global catastrophe.

Statistical projections based on Unesco studies give us some idea of the future evolution of education and some alarming trends are being revealed. The rate of growth in the number of pupils will probably decline during the 1980s at all levels and for all kinds of education, and as a result the goal of universal primary education for all by the year 2000 will not be attained. As in the past, illiteracy will continue to be concentrated in the developing countries in the countryside and among women. To the detriment of the people, a growing number of countries, including some developing countries, are becoming involved in the arms race. Over the past few years, within a whole group of countries, a relative, and at times absolute, reduction has been seen in educational expenditure, in particular on primary schooling, the eradication of illiteracy and the training of adults.

We believe that, contrary to what is sometimes thought, there is no real choice to be made between the democratization of education, primary education for all, the eradication of illiteracy and the concentration of resources on improving the quality of education and the training of cadres for the economy.

Public expenditure on education is diminishing in certain industrialized countries. To the detriment of the general school and of the quality of education, there is a concentration on forms of education of interest to the large corporations and in particular to the military complexes.

The revival of another alarming tendency has become evident in recent years. Neo-conservatives among educationists are attempting to make use of the fact of the inequality of intellectual capacity to attack the notion of the democratization of education. For those who believe in "genetic determinism" there is no point in talking of equality of opportunity and even less of equality of achievement. It is hardly necessary to point out how convenient the notion of genetic determinism is for those who want to reduce social expenditure in general and to limit the financial responsibility of the State for education.

There is considerable justification for current criticism of the objectives of education, of the rigidity of its structures, its anachronistic programmes and the delay in making use of scientific and technological advances to improve the efficacy of the process of acquiring knowledge. Use on a large scale of new teaching methods, in particular programmed teaching and informatics, offers wide prospects for the personalization of education. Of course, everything depends on the way these

An open-air school in the Cauca district, Colombia.

Photo © Cris Queiroz, Paris

"Morning came. Fire was still smouldering in Hiroshima. I entered the city. Many people were dead in the fire prevention water tank, their bodies scorched black. I saw a dead woman, her standing body scorched black, holding a child in her arms and still in a running position. Utterly incredible, but this was reality". This drawing is by Yasuko Yamagata who was 17 years old when the first atomic bomb fell on Hiroshima on the morning of 6 August 1945. It is taken from *Hiroshima-Nagasaki, Pictures of the Atomic Bombings,* a book published in 1981 by a committee of Japanese citizens, founded in 1977, whose goal is the abolition of all nuclear weapons so that the tragedies of Hiroshima and Nagasaki shall never be repeated. The book records, in photographs and drawings and in the testimony of eye-witnesses, the full horror of the bombings and their aftermath. Some of the drawings by the *Hibakusha* (survivors of the bombings) like Yasuko Yamagata were made up to 30 years after the event, but they retain all the immediacy of a moment in time etched indelibly on the memory.

Drawing Yasuko Yamagata © 1981, Committee for the Publication of the Book *Hiroshima-Nagasaki*

new techniques are used. Clearly no machine will ever replace the teacher whose task it is to shape the younger generation's vision of the world.

The potentialities of these new educational means relate less to reducing the cost of education than to improving its quality. They free the teacher from the repetitive, routine aspects of his work, allowing him to devote greater attention to the personality of the pupil, bringing out his human qualities and developing his power of logical thought, teaching him the methodology of the acquisition of knowledge and giving him an understanding of his rôle in life, of his occupation and of his obligations to society.

The world of work offers great possibilities for the rounding off and personalization of the student's education. In preparing the 11th Five Year Plan (1981-1985), Soviet educationists put forward a number of possible scenarios for the development of the educational system up to 1990. Particular attention is paid to pre-school education and, in one school model, whilst a structure of teaching by disciplines is preserved, the time allocated to practical work in the laboratory and work-oriented instruction is considerably increased.

New objectives were also proposed for higher education, which is playing an increasingly important rôle in Soviet society. In the USSR today, some 12 million specialists, or one worker in 10, have benefited from higher education. Generalized higher education, with universities at Moscow, Tashkent, Samarkand and Baku for 150 thousand to 200 thousand students, can now be realistically envisaged. The problem is to ensure that this mass education does not lead to standardization and the drowning of individual personality and that personalized instruction is introduced. ▶

It is commonly accepted today that it is no longer possible to have a once-and-for-all period of study and that it is vital to know how to renew a person's educational acquisitions throughout his entire life. The system of training specialists must become sufficiently flexible to cope with rapid re-training to meet new requirements. The Plan proposes this objective for the years to come: "The method of planning the training of specialists in higher educational establishments must allow of a rapid response to the imperatives of the national economy". The complexity of this objective can be gauged by the fact that in the USSR some 500 special fields of study appear each year (and about the same number of old ones disappear).

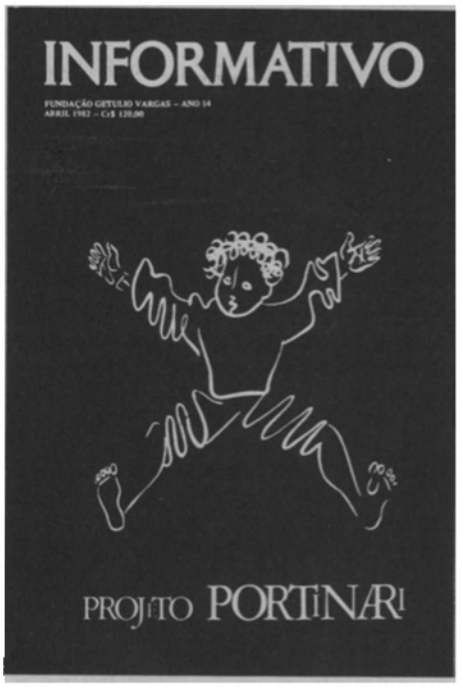
This approach, it would appear, can only be given greater prominence in the future, and this is why, from now on, particular attention is to be given to promising scientific developments such as quantic electronics, microprocessors, medicine, biology, genetics, the energies of the future and the safeguarding of the environment. At the same time, a system of retraining for specialists is being established which between now and the year 2000 may be instructing greater numbers than the system of initial training. The education of adults with their specific needs will be closely associated with this system.

This brief overview would not be complete without a mention of the experimental research on new models of schools and higher educational establishments now being carried out in the national republics of the USSR and which take into account local conditions and cultural differences. Comparison of the experiences of the different Soviet republics is of great importance to forecasting in the educational field, and this great undertaking would be given new impetus if it could be coupled with a vast effort of international co-operation. ■ **Boris Kluchnikov**

UNESCO NEWSROOM

Brazil remembers a modern master

Brazil has launched a major project to study and make more widely known the life and work of the great modern painter Candido Portinari (1903-1962), whose estimated output of some 4,000 works constitutes a vast visual synthesis of the land and people of Brazil. The project aims to locate and document all the artist's work, create a Portinari data bank and produce a wide range of publications and audio-visual material. The ultimate goal is the establishment of a Portinari Foundation as a centre for cultural research and investigation and a means of promoting the work of contemporary Brazilian artists.



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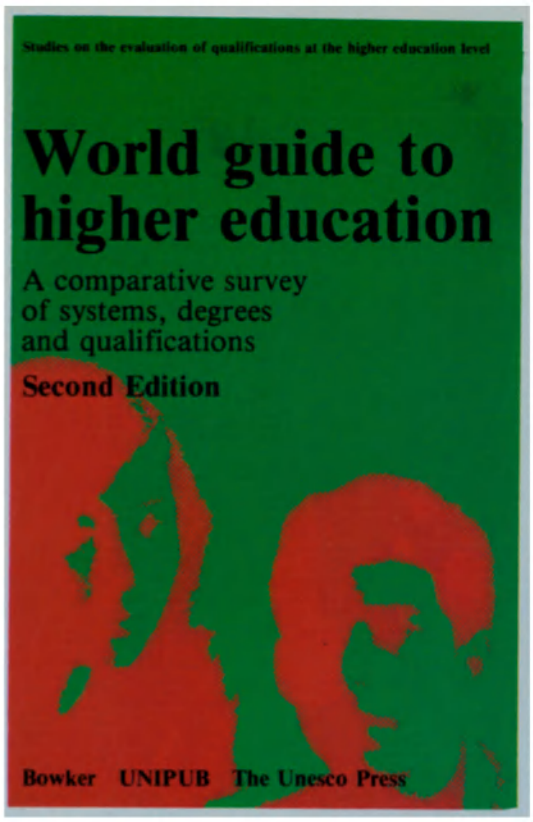
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